

1975

Competencies needed by family food aides

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Competencies needed by family food aides

by

Leah Tirindi Marangu

A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of
The Requirements for the Degree of
DOCTOR OF PHILOSOPHY

Major: Home Economics Education

Approved:

Signature was redacted for privacy.

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Iowa State University
Ames, Iowa

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INTRODUCTION

The philosophy and objectives of the Home Economics Extension Service have been directed toward the improvement of family living conditions. These living conditions take varying aspects of the family environment including family relationships, food production and preservation, resource management, and interaction of the family with civic and governmental affairs.

According to Frye (1971) the objectives of the EFNEP have been to help families acquire the knowledge and skills to achieve more adequate diets, and, consequently, to attain better health conditions. The fulfillment of these objectives may lead to better family members, parents, and citizens and, hence, to a better society.

A new direction was taken in 1968 when the Expanded Food and Nutrition Education Program (EFNEP) began. This program was made possible by an appropriation of \$10 million through the U.S. Department of Agriculture to train nutrition food aides. The aides were to work with the hard-to-reach low-income homemakers living in urban and rural areas of the United States (Spindler, 1969). The work of the aides with the homemakers was directed toward meeting the needs of the homemakers on a one-to-one client basis or in small groups.

The rapidity of growth and the acceptability of the

Expanded Food and Nutrition Education Program has been increasing throughout the nation since its inception in 1968. The Extension Service Review (1971, p. 16) indicated progress as follows: "the initial funding of \$10 million was increased to \$20 million, then \$48 million" in a matter of less than three years since the start of the program. At that time, 1971, the program was serving more than 293,000 families, which was an increase of 88,000 families over the year before.

While the above figures represented only the number of people who were being reached through the adult phase of the program, more people were being reached through the youth phase of the program. According to the Extension Service Review (1970), there were more than 100,000 youth from low-income families participating in 4-H type nutrition programs which were part of the Expanded Food and Nutrition Education Program.

The Extension Service Review (1971) pointed out that the number of employed aides did also increase along with other program populations. The number of full-time aide equivalents exceeded 7,300 in 1971 which was an increase of more than 1,900 aides over the year 1970. Also, the percentage of EFNEP families receiving assistance under the Department's food programs increased from about 41 percent to nearly 50 percent in 1970 over 1969. The increase was attributed to

two things: that aides were reaching the kind of families who can benefit most from the program, and that they were doing a better job of helping their families take advantage of Extension programs (Extension Service Review, 1971).

The need for more personnel in the extension program is a pressing one since there are still homes in the United States where children are undernourished. The reasons for this are many; it may be due to the lack of resources to obtain food or it may be because of the lack of knowledge to utilize whatever resource is available. Therefore, the use of the aides in the EFNEP is part of an innovation to improve the delivery of services to the people who are educationally, culturally, and economically deprived. Delivery of such services to such clientele may not be an easy one, since they represent such complex problems that are intertwined with areas that are imbedded in the culture of the poor. To untangle such problems requires great human engineering. America may realize the full potential of her citizens when their physical and intellectual needs are met. Maslow (1956) stated that a man cannot realize full potentials and fulfillment in life if his physical needs are not met first.

The duties of the aides are constantly reviewed and expanded (Stewart, 1971, p. 4) and both the aides and the extension home economists have voiced a need for the program to expand to other areas of home economics (Green, 1972,

Myers, 1970, Chakravorty, 1972). This expansion of the role or duties of the aides has caused the extension home economist to examine the duties of the aides and to identify competencies needed to perform these duties satisfactorily.

Recent studies have shown that the use of program aides in the EFNEP has been a success (Extension Service Review, 1971) but it has also been indicated that "the greatest potential in the utilization of aides has not been realized. There are probably many factors which relate to this, such as...inadequate or inappropriate inservice training and supervision, inappropriate job responsibility assignment, etc" (Lowry, 1971, p. 1).

The aide's participation in the extension program has caused the program to realize greater accomplishments. What the professionals have failed to accomplish for years, the aides have achieved; they have brought in new hopes and new insight in realizing the program's objectives. Yet professionals should not forget that this new arm they have acquired must be nurtured. Professionals need to equip the aides with necessary knowledge and skills and careful supervision so that the aides may not experience a sense of defeat, discouragement, and frustration when they fail to perform expected tasks with expected standards. The Extension Service (1971, p. 21) stated that:

...our observations suggest that perhaps 10 to 20 percent of the aides are marginal...not obvious misfits, but making a questionable contribution to the program. We are not saying that such aides should be written off, but feel that the program could be more effective if they were helped to recognize the requirements for effective performance by much closer and more active monitoring of the work and specific attention to their training.

The need for aide training in other areas of home economics cannot be underestimated. Green et al. (1972) conducted a study in which he observed that the aides needed more training in techniques of teaching in order to keep homemakers interested for longer periods of time in the program; and that aides needed more than just food and nutrition education to avoid bitter disappointment or dissatisfaction of homemakers in the future. In particular, Green et al. (1972, p. 22) stated that homemakers needed community resources that would be available and accessible to them when their new, unanticipated problems emerged and also needed education on how to utilize these resources to prevent or cope with these problems.

Nutrition problems are not isolated in a family environment. They involve not only the lack of resources but also noxious attitudes about foods, lack of knowledge to appreciate the contribution of food to health, as well as lack of knowledge to utilize resources available to maximize satisfaction. The advertising media exert such powerful influence on the individuals that if properly used they may enhance the work

of the aides, but if improperly used they could undermine it.

According to Stewart (1971, p. 4) "nutrition education alone would rarely be enough to bring about any lasting improvement in the well-being and ways of life of needy individuals." Therefore, the program needs to be diverse in order to be effective in helping the poor and the low-literate homemakers. Stewart (1971, p. 3) noted that the "nutrition component of the program focuses primarily on the improvement of nutrition but readily recognizes that food habits do not stand alone in the home situation." She indicated that many home conditions associated with poverty, age, or illness must be improved before the family can concentrate on improving nutrition. Therefore to dismiss the fact that EFNEP aides are not only there to deal with nutrition alone but also with other family problems is to defeat the purposes of the program.

Farmer (1970, p. 89) indicated that "unless we deal with all aspects of the problems that affect the communities of the poor, the work we do on anyone is bound to be of limited effectiveness because the services are so interrelated." Interrelationship of services may be viewed through food service, but food is taken very lightly in our society. It is seen only as a source of sustaining life, though along with this function go other functions like a means of social gathering, ritual performance, etc. Inclusion of other

subject matter competencies other than foods in the present study was based upon needs raised by previous studies.

Suter (1975), in a study of food-related values of low-income mothers, found that food served the following values of low-income homemakers: it was a medium for the family to get together to eat as well as to share daily experiences with each other; also values relating to economy, health, friendship, work efficiency, and education were included and were rated in proceeding order. A conclusion may be drawn, based on Suter's (1975) study, that a more in-depth and diversified approach to the aide's training is an absolute necessity in planning educational activities.

Myers (1970) investigated the impact of paraprofessionals on home economics extension personnel and programs. She found that home economists recommended that if Extension decided to increase its use of paraprofessionals, the role of the food aide should be expanded to include other subject matter areas. Myers (1970, p. 179) noted that "practice of expanding the role of paraprofessionals were preferred over employing paraprofessionals to work in specialized subject matter areas." The preference of expanding the role of paraprofessionals would go along with the desire to identify those other roles and to identify competencies needed to perform them. Then an expanded curriculum which would include identified areas would be constructed.

Identification of the competencies which the aides have or need, would help the trainers meet the individual needs of the aides and equip them with necessary in-service and pre-service training. The present study was based on tasks identified by Smith (1972). The competencies to perform the tasks identified by Smith will help in constructing the aides' curriculum in Iowa.

Therefore, the purposes of the study were: (1) to identify competencies needed by aides to perform tasks, (2) to determine clusters of competencies judged by home economists to be needed by aides, and (3) to make recommendations for training of aides.

The terms referred to throughout the study were defined and used as follows:

- (1) Expanded Food and Nutrition Program (EFNEP) -- a special program designed for teaching low-income homemakers necessary knowledge of food and nutrition. The program uses paid nonprofessional aides who are trained and supervised by professional home economists. The program is a part of the Cooperative Extension Service of the U.S. Department of Agriculture and is being carried out by all 50 states, Puerto Rico, and the Virgin Islands, in both rural and urban areas (Sanders, 1970, p. 8).
- (2) Poverty -- a person with yearly income of less than \$1,500 a year. Other terms may be low-income, poor, under-privileged, and disadvantaged.
- (3) Program Aide -- a paid worker without professional training who works as a member of the county extension home economics staff. The aide is often indigenous to the group with whom she works, and serves as a bridge between the home economist and the low-income

family. Other titles given to the aides are: non-professionals, sub-professionals, paraprofessionals, and auxiliary worker (Spindler, 1969, p. 636).

- (4) Professional -- mature adults who have received college degrees and are specialists in their field. They work with program aides performing higher tasks which require professional knowledge and skills.
- (5) Homemaker -- a person in the home whose responsibility is most often to purchase and prepare food of the family members. This person is the target of the aide's teaching although other members may be included also.
- (6) Task -- a logically related set of actions required for the completion of a job objective...a complete job element (Mager, 1967, p. 10).
- (7) Competency -- an attitude, behavior, skill, or understanding demonstrated by a participant at a specific performance level (AHEA, 1974).
- (8) Knowledge -- information which helps an individual to set a context for social phenomena to be more easily comprehended (Warren et al., 1969).
- (9) Skill -- ability to use one's knowledge effectively and proficiently (Webster, 1964).
- (10) Understanding -- capability of comprehending and judging, Webster (1964).

The limitations of this study were:

1. That it was based on tasks identified from what the worker does on the job and therefore, eliminates some of the human relationship skills and some mental processes, and
2. That it was limited to competencies judged by home economists as important.

REVIEW OF LITERATURE

The review of literature in this chapter covered some of the existing problems about the aides' program. The chapter has the following sections: (1) training and supervision of program aides; (2) the role of program aides in working with the low-income homemakers; (3) the philosophy of the aide program; (4) criteria for selecting aides; (5) role of professionals when working with program aides; and (6) research related to home economics EFNEP aides.

Training and Supervision of Program Aides

Use of program aides has been expedient for years. Ingels (1969) noted that for 50 years the Extension Service successfully trained volunteers to teach others. The success of using volunteers in the past might have given the Extension Service its idea of using aides in the EFNEP. The results of the Alabama pilot program with the nutrition food aides indicated that "paid part-time nonprofessionals, working under the direction of Extension home economists, can help homemakers become motivated to improve the quality of living of their families" (Oliver, 1967, p. 486). The professionals can increase the potentials and work efficiency of the program aides through a carefully planned aide program. This, in itself, is a challenge to the professionals. As stated by Spindler

(1969, p. 635) "the use of program aides in teaching the poor how to improve their diets is one of the greatest challenges that home economists of the Cooperative Extension Service of the U.S. Department of Agriculture have ever faced." This challenge can only be met through careful selection, training, and supervision of the aides. Both in-service training and pre-service training is essential for an effective program. Spindler (1969, p. 636) stated that "when using non-professional aides to improve the diets of the poor, training was of the greatest importance." Spindler (1969) added that it is most important that aides should not be sent into the field with insufficient training. Stewart (1971) indicated that the proper selection and training of program aides was vitally important if the program aides were to be competent workers.

Training of the aides, like training in any other career requires that the educator understand all the necessary background which may influence teaching in relation to how the learner receives and interprets the material presented to him. Teaching the illiterate or educationally-deprived clientele presents one of the difficult tasks in the educational system. They need to be approached in a careful manner so that the values and goals may not raise a conflict between the low-literate and the middle-class people. For example, the goals of low-income families may be short-term

while the middle-class goals may be long-term. Aides need to learn the effective methods of reaching the homemakers. The Extension Service Review (1970, p. 9) indicated that personalized informal learning experiences were important if homemakers who were geographically and educationally deprived were to be motivated to raise their level of living. This calls for the trainers to make the aides aware of the need to plan for meeting the specific needs of the homemakers and establishing priorities in working with each of them. Failure to do this may create a setting where the aides may be overwhelmed by the problems of the homemakers or the aides may tend "to teach the homemakers what was taught in the weekly training sessions irrespective of the needs of the homemaker" (Lowry, 1971, p. 2).

Steinberg (1970) in his address to home economists entitled "Stress, Strain, and Joys of Utilizing Auxiliary Personnel" pointed out the relevance of training of the auxiliary workers. According to Steinberg (1970, p. 102) "the degree to which the training practicum is an integral part of the basic service and delivery pattern and not based on make-believe jobs has a real effect on the initiative, motivation, performance, and job longevity of the trainee." By make-believe jobs, Steinberg may have meant that a trainer should know exactly what tasks or duties an individual needs to perform in the field after the training. Then the

trainer may design a curriculum directed toward meeting the specified needed knowledge and skills of the trainees in particular jobs. Since aides function to help the homemakers solve many home-related problems, aides need different subject matter competencies.

According to Mallory (1971, p. 330) "opportunities must be provided for auxiliary workers to get meaningful education and experience so that they can be certified and licensed." In order for the program to be meaningful, educational activities and experiences must be carefully planned and executed in such a way that they meet the needs of the recipients of the program. Mallory (1968, p. 636) pointed out some of the significant contributions of the aides to the Extension Service when she said that:

...they can help extend the service of the professionals; they can provide jobs for the unemployed; they can help us meet the expanding needs for services; they can perform some tasks as well as and sometimes better than the professionals; there is the possibility of a cost benefit both from the standpoint of cost of service and cost of training.

Although there are all those benefits or advantages of using nonprofessionals, there are some dangers or limitations of using them when their utilization is based on poor training. "The nonprofessional without training is not an asset; he can, in fact, be a menace to the service. Not only is he unaware of his active role, but he also has no idea of what he must not do" (Pearl and Riessman, 1965, p. 157).

According to Spindler (1969) professionals need to know that aides can perform well only those tasks which they are competent of doing. Since aides have limited knowledge in their field, they may be tempted to give a story to their client in a most appealing way disregarding the facts presented in the story. Spindler (1969) indicated that aides' lack of facts may bring the feeling on the part of the professionals that even though they appreciate the enthusiasm of the aides, they also feel "responsible as a representative of the Land Grant College and the U.S. Department of Agriculture to keep teaching accurately." Spindler (1969, p. 637) therefore concluded that "as the use of the aides increases so does the need for the best possible training if the accuracy is to be retained." According to Stewart (1971, p. 2) "careful selection and adequate training of aides will contribute to the success of a nonprofessional aide program."

Benefits derived through a sound aide training program are threefold; there is a benefit to the Extension Service, to the homemaker, and personal benefits to the aides themselves. Aides have a chance of realizing a need of self-actualization, and a chance of living better satisfying lives. Spindler (1969, p. 638) noted the following changes in aides as a result of six months of active participation in the program:

...a great change in attitude and personal appearance, improved self-concept, improved grooming, better posture, more attractive dress, weight loss or gain for a better figure. Some comments by the aides on receiving their first pay check (eight were on welfare prior to employment) were: "Now I feel like a person;" "I feel so free;" "What makes me feel good about this program is that people have accepted us." Increasing in their knowledge of nutrition and a greater variety in their food choices. "Before I came here my family just ate. We didn't know why." I cooked the same thing over and over. I buy lots of different foods now and put them into patterns."

Improvement in food management -- less impulse buying.

Improvement in food storage, and use of better food preparation techniques. A real desire to make food look attractive and have appealing taste is apparent.

A recognition of the direct relationship of nutrition to health....

A better feeling about education was another thing that was observed as a changed attitude by the aides. These changes experienced by the aides may influence the homemakers to do likewise. A model role of the aide in the community is very important. It may mean a change of community values and goals. A change in the aide's quality of living may be viewed as an accomplishment of the Extension Service since the aides themselves belong to the low-literate, low-income clientele.

The Role of Program Aides in Working with the Low-Income Homemakers

The program aides in the Extension Service are serving a unique role: teaching homemakers how to perform their duties, and how to solve their daily family life problems. Spindler (1967) stated that home economics program aides trained by the Extension Service were being used to teach others rather than merely to perform a service. However, Spindler (1967, p. 479) warned that nutrition program aides should not be confused with housekeeping and home health aides who perform a service function to the homemakers. The role of the nutrition food aides therefore goes beyond the service functioning. It is perceived that the idea of directing the aides to the homemakers for education other than performing personal duties may tend to break the chain of dependence. According to Spindler (1967) such directed help may have longer-lasting effect on the change of behavior than the one to which the objective would be doing things for the people. What is learned by one person may be more contagious to others than what is done for one person. Oliver (1967) noted that changes in aides behavior which were the result of EFNEP training influenced other family members in the following areas: improved school attendance for children, improved attitudes about employment by the husbands, and improved participation

in the community programs by the family members.

Beavers (1970) recognized and encouraged the use of aides when she indicated that "aides...can extend the arm of the professional by performing subsections of work previously done by the professional for which professional training is not necessary." It is evident therefore that the role of the subprofessional is not only an asset to the homemaker but also to the professional. The nonprofessionals complement the roles of the professionals making the professionals more effective in fulfilling the program goals.

Subprofessionals have many attributes that add to their success on the job. To their credit are the customary mannerisms that originate from the low-income life style. They may not be moved by "clock time" when serving people, but may be moved by requirements of a given situation. They can understand the life style of the poor so well because it was and still is a part of them. They can understand the life style of the middle-class because they have been exposed to it through education. Therefore, this unique group of people serves as a "bridge from the middle-class institution to the low-income population...able to interpret community life and values to the professionals...as well as serving as interpreters of the professionals, and role models for low-income community persons" (Pearl and Riessman, 1965, p. 77). This indeed is a very intricate role, because the nonprofessional who is

truly from the low-income community is expected to represent both the professionals who are from a different "class" from that of the nonprofessionals, and is expected to be the model to the poor, the "class" to which she belongs.

The success of the nonprofessionals according to Pearl and Riessman (1965, p. 78) "seems to stem from the fact that they are similar to the clients in terms of background, style, language, ethnicity, and interests." Other qualities possessed by nonprofessionals that make them successful in their job according to Pearl and Riessman (1965, p. 85) include the fact that they

...are an acceptable model to the poor...not a middle-class square...they know how to deal with neighborhood problems...they are considered less formal...they will hug clients...share first name designations...tend to be directive, active, and partisan.

If what makes the nonprofessional succeed with the clients is partly the possession of the qualities she has in common with them, it is apparent that success of nonprofessionals with the professionals, "the other half," may be assured through the acquisition of professional skills and knowledge relevant to what the aides are expected to perform in the professional world. "If a nonprofessional is to be retained, she also needs to be trained to perform a service; the usefulness to herself and others will be based on her ability to do the job well, and on that alone" (Pearl and Riessman, 1965, p. 168).

The personal satisfaction derived by the nonprofessionals cannot be underestimated as a contribution to their success on the job. Pearl and Riessman (1965, p. 87) stated that:

...the nonprofessional's effectiveness is related to the satisfaction he receives from the work he does--team satisfaction, respect gained from performing a meaningful job in cooperation with professionals, learning a skill, and most important of all, helping others.

A person cannot help others if she is limited in knowledge and skill required to help in different situations. Family life represents one of the most complex problems in society. Aides need complex knowledge and skills that will help them to succeed in what they do. Success in their job may mean success in life in general. Sometimes poor people are not given a chance to play any role in our society, but "using the aides permits the poor to get into the mainstream of action" (Beavers, 1970), that may mean a new outlook in life for them. As stated by Riessman (1967, p. 5), "A great many poverty-related problems derive not merely from income deficiency, but from lack of a meaningful life." Therefore, when aides find satisfaction through their jobs, they also find satisfaction in life.

Reasons why poor people remain poor are many, but some of them may be simply due to a lack of desire to do something about it. When aides serve as models to the poor, they may show them that they too, the "poor," can succeed in life if

they do something about it. Pearl and Riessman (1965) perceived the program of using paraprofessionals as a way of assisting people to change their lives. Therefore,

...there is a need for more information concerning meeting the needs of program aides in order to provide in the most effective way possible for the educational needs of low-income families. It would be beneficial to know how competent the aides feel they are in the areas of teaching effectiveness, consumer education, knowledge as it relates to food, and food and nutrition knowledge and abilities; and the extent to which agents feel the abilities and knowledge of the aides is adequate (Sanders, 1970, p. 5).

The Philosophy of the Aide Program

The philosophy behind the training of the program aides has been indirectly pointed out on previous pages. But the U.S. Department of Agriculture (1970, pp. 7-8) summarized it as follows:

Through small but successful learning experiences homemakers can change a self-image of defeat and failure to one of confidence.

The long-range goal is development of the individual and her family. Teaching homemaking skills is a means of achieving this goal.

Some homemakers may not be interested in attending meetings. For them teaching will begin by home visits.

While success in the early stage of the program will be important, a small defeat is not the end.

The things taught should have immediate and practical application related to problems each family faces.

A sequence of home visits will reveal interests and needs of the homemaker, will provide opportunity to try and to practice homemaking skills, and will move the homemaker to participate in a group of two or three, and finally, in a large group.

It is important to motivate the homemaker to group experiences.

The real focus must be on education. Donations are not the same as helping a family learn how to acquire the same thing. Service to the family should be given in terms of learning experiences.

Working intensively with homemakers in this audience is necessary for their development.

Small evidence of change in people will be the marks of real progress.

Too few professional home economists are available to make more than a token effort to reach the more than nine million low-income families.

Nonprofessionals can be trained as program assistants to perform effectively and can also learn by helping others.

The warmth and support that program assistants offer the homemaker are important.

Several agencies can work together more effectively than one after responsibilities are defined. The trainer agent and program assistant need to know resources in the community to which the trainer agent can refer families with special problems.

The trainer agent assists the program assistant in putting families that need help in touch with appropriate agencies.

The points presented here speak for themselves; through diligence, the Extension Service aims at improving the lives of people even though this might not happen overnight.

Criteria for Selecting Aides

Selection of aides needs to be of great importance. They need to be the type of people who will match up to their roles and expectations after training. Therefore, proper criteria for selecting the aides need to be developed. The criteria for selecting aides are about the same in most aide programs. Spindler (1969, p. 636) identified the following criteria for selection of aides when working with the Alabama Extension Service Project. Spindler viewed a program aide as a person who:

- a. is empathetic and has compassion for low-income families
- b. has a keen perception and appreciation of various values and standards of our society
- c. is mature and flexible, receptive to new ideas and will accept supervision from the professional staff
- d. has demonstrated an ability to work with people
- e. is energetic, enthusiastic, and willing to work, even when results are minute and delayed
- f. possesses acceptable standards in homemaking
- g. has educational background necessary to understand and follow training and policies necessary for conducting an educational program on this level.

The criteria identified above required the aide to maintain certain standards in relation to her own educational background, knowledge of the society, and acceptable personality traits. Although the aim of the program is to use indigenous people who have lived in the culture of the poor, the criteria for selecting them indicate that it is preferable that their values and goals be a little more like those of the middle class.

Olson (1970, p. 6) specified some of the tasks performed by aides in Iowa. She stated that:

Aides begin working with families where they are. They help them prepare food to retain the most nutrients. They teach them how to shop to get the most value for the money; they tell families about the food stamp program and other types of food assistance for which they might be eligible. They help homemakers plan meals, store and preserve foods, and follow good sanitation practices. Aides plan with the homemaker what will be done each time they visit. Sometimes she may want to introduce an idea for a low-cost nutritious food such as cocoa mix which is made from dry skim milk. Sometimes aides accompany homemakers to various food outlets to help them know best buys for food....

Although the tasks specified by Olson (1970) related to those of food and nutrition, the work of family food aides in Iowa is not limited to teaching about food and nutrition. Some of the duties found to be performed by aides included home visits where they teach homemakers ways to improve their cooking, shopping, and meal planning skills. Aides also taught other areas of home economics like clothing, management,

child care, health and sanitation and other related areas (Smith, 1972; Chackrovorty, 1972).

Role of Professionals When Working With Program Aides

The professionals' role in the program may consist of tasks like supervision of the aides, curriculum or program planning, evaluation of the program, guidance, training, and other tasks along this line. Pearl and Riessman (1965) viewed the role of professionals in working with program aides as that of a leader in the development of knowledge, the innovation of the programs, and the establishment of appropriate training in his field. The role of the professional is a challenging one; it is her success or failure in directing the objectives of the program that determine the destiny of the extension program. Spindler (1969, p. 13) stated that "the responsibility for the aides' training rests with the Extension home economist. That it is her job to teach the aides the purpose of the program, help her to understand how people learn and change, and teach her how to provide suitable learning experiences for the family." Spindler voiced a need for teaching the aides skills of evaluating the family progress as well as managerial skill and ability to empathize with families.

The work of the professionals with nonprofessionals should

not be viewed as an easy task. It requires more human resources than subject matter knowledge and skills relevant to the particular area. Professionals need to understand the culture of the poor. They need to present themselves to the aides in such a way that the aides can learn from them in more ways than just what they show and tell them. They need to be the unthreatening model to the aides in all circumstances so that the aides can come to them for help with ease regardless of the situation.

Sanders (1970, p. 5) stated that:

...in order to adequately supervise and train program aides to work with low-income homemakers, it is necessary to attempt to understand both the culture of the aides and the culture of the families the aides reach. No amount of reading can substitute for actual work and contact with people if one hopes to understand the culture of the poor. Aides will be more effective teachers if they are well-trained and confident of their ability as aides.

Otis (1965, p. 14) recognized some of the problems of professionals that need attention when working with non-professionals when he stated that:

The nonprofessional and subprofessional functions are problems for the professional in terms of (a) careful agency delineation of the tasks to be performed; (b) allocation of financial resources and space for personnel to be hired; (c) provision of in-service training in the carrying out of the designated functions; and (d) allotment of supervisory time for the subprofessional.

Otis (1965) indicated that even though working with the sub-professionals may present a problem at the initial stage,

all of the above steps can be done with little stress and strain upon the professional staff and agency. Once that is accomplished the productivity of the program may be increased.

Training directed toward understanding the needs of the aides and the program families may create self-confidence in the aides and families. Self-confidence may come about as a result of inner self-assurance which comes when an individual is sure that he is a master of a particular knowledge and skills. Consequences of self-confidence are many. One of them may be creation of a good self-concept. If a person has a good self-concept, he is usually less anxious, better adjusted, more effective in groups, less defensive, and more honest with himself (McCandless, 1961). These qualities may contribute to the success of the aides. In order to graduate competent individuals, it may be necessary for the program planners to delineate the guidelines of the program as well as to provide continuous evaluation. This is because "it is important that the aide is able to recognize the progress she is making as well as for the trainer agent to be able to evaluate the performance of each aide" (Lowry, 1971, p. 5). Therefore, program guidelines may assume the following steps:

1. Identification of needs of individual homemakers.

2. Setting goals and priorities with the homemaker based on the identified needs.
3. Selection of specific learning experiences for the homemaker based on goals.
4. Organization of the learning experiences by use of the conceptual approach which have continuity and sequence and ultimately the integration of content into the total family food plan.
5. A means of evaluation which has relevance to both the aide and the Trainer Agent (Lowry, 1971, p. 6).

Incorporation of the program aide into the professional role is a role that needs to be studied carefully to find out where "both will need to learn to live with and make use of each others' point of view, and to be permissive when differences arise in areas where knowledge of the right course of action is uncertain" (Otis, 1965, p. 16). According to Otis (1965, p. 16), there needs to be established relationship between the aides and professionals to work as a team rather than superiors and subordinates. He pointed out that:

...there will need to be a continuing two-way process in the delineation of tasks to be performed, the provision of in-service training, and the professional monitoring of the new career auxiliaries. The low-income indigenous auxiliary should be able to contribute to the agency's definition of its own task and the way it administers its functions; enrich the in-service training of the professional by providing neighborhood 'savvy'; and help the professional view himself in relation to the client's needs and attitudes.

Therefore, where proper attitude is applied, both the pro-

fessional and the nonprofessional learn and benefit from one another.

Riessman (1967) stated that retraining of professionals was needed in order to change attitudes about their role. The relationship between the professional and the program aides need not be taken very lightly. They both need to know that they complement each other in their work. It makes a difference as to how each one perceives the role of the other. The professional person need not perceive an aide as a competitor; neither does she need to see her as an illiterate, but she should view her as a helper who, because she is there, increases and improves the volume of the job.

Learning in EFNEP or in any other programs need not be taken as a one-way street. Olson (1970, p. 9) indicated that even the professionals get in-service learning from the aides when she stated that "as professionals we have realized that learning is a two-way street. We have learned valuable lessons from the aides when they work with families with patience, empathy, and understanding and have experienced the small measure of success that we are never able to achieve."

Not every professional person is qualified to work with the aides. Because, even though she may possess the knowledge of the subject matter content, other factors may enter into the working relationships between the aides and the professionals; thus, making the professional unsuccessful as a

trainer, supervisor, and director of the aides program.

In a publication "Training for New Careers", the President's Committee on Juvenile Delinquency and Youth Crime (1965, pp. 44-45) stated that when employing the people to work with the aides:

...attempts should be made to hire people who are sincere, interested in others. They must be able to like and respect the aides, or they cannot work with them....

Training of these individuals should be related to the training program, the life of the socially-deprived and the special problems in working with aides; learning how to convey knowledge and skills in a form which is understandable to the aides, and developing perceptiveness, sensitivity, undefensiveness and techniques necessary to understand and conduct groups of aides....

Therefore knowledge of the sociological background of the aides and the culture of the poor is a competency which professionals need to acquire. They can truly empathize with the aides and the program families when they get a clear picture of what it is to live in a culture of the low-income families. Understanding of the forces that dictate the behavior, values and goals of poor people should be learned by the professionals. The U.S. Department of Agriculture (1970, p. 14) suggested steps to insure that these kinds of team approach and understandings were met:

1. Clarify the job of the program assistant for yourself...in writing.
 - a. Describe the tasks of program assistants.
 - b. List competencies they need.

- c. Define points at which the program assistants and that of the professionals meet.
2. Share written outline above with co-workers on your staff.
3. Discuss with co-workers and your supervisor any adjustments the position of program assistant will make in the current tasks of your position and in your office.
4. Discuss with your co-workers the way in which the nonprofessional will be a part of the "team" and will need acceptance and support.

Active communication is another important area in any endeavor in life. Without direct communication where mutual understanding is observed, a good working relationship between the professionals, aides, and homemakers may be strained. Brill (1966) stated that communication was the biggest problem home economists encountered when working with the low-income families. Brill (1966, p. 635) stated that "we need to learn to utilize our knowledge and understanding to create a climate of acceptance within which we can...communicate with each other; to learn that we do not communicate by words alone -- that attitudes and actions have a louder voice and that feelings speak the loudest of all; to learn to listen to what we are really saying to people! How one conducts herself to others tells a lot more than what one says to them." Therefore, professionals need to learn and practice this important skill.

Professional problems are not limited to one particular

area of human relationships. Differences in value could be another problem of the professional concern. Values may tint what people see, hear, smell, and feel. Although there are no right or wrong values, values may be said to be favorable or not, depending on which direction the pendulum is swinging. If the values possessed by a professional would cause her to be biased in her professional role, then these values may not be favorable. Even though the professionals may have different values from those of the aides and program families, when the proper attitude is practiced, acceptance of the "other culture's values" may result. Then self-examination and re-education of being active observers may also result.

Spindler (1969, p. 638) observed that professionals who worked in the action program to improve the nutrition of the poor, "learned to see more, listen more, and tell it as it really was as a result of their involvement in the program." Their involvement may have helped to break social boundaries and their value system boundaries which, in turn, may have helped them to identify with the homemakers better. Identification with the homemakers may have created good rapport between them thereby, creating a good working relationship.

Learning created by active involvement and communication was witnessed by Spindler (1969, p. 638) who stated that

after active involvement with the program, the professionals:

...have seen what it means to be poor in an urban setting. They learned to be flexible, to teach, and to learn. They know professional and social distance make a communication gap inevitable, but are pleased when it narrows.... They have been challenged by the high degree of professional competencies expected from them by aides, and have found the importance of interaction with other agencies which are essential for a successful program.... They are conscious of great need for continuing professional improvement and the importance of nutrition research. They see an even greater need for a combination of nutrition science and the social sciences if change is to be effective.

Change in professionals, aides, homemakers, and society in general will not be realized by teaching nutrition alone. But lasting change of behavior may be realized through teaching that attempts to blend the teaching of nutrition with other social or family needs, which affect nutritional needs, and activities that must be performed in the home to procure resources for food.

Research Related to Home Economics EFNEP Aides

The studies cited in the proceeding pages were limited only to studies related to the work of the aides in home economics. Shipley (1967) completed a study and the objectives were: (1) to identify the tasks performed by the employees in the occupations of homemaker/home health aide, hotel/motel housekeeping aide, and nursing home house-

keeping aide; (2) to determine the frequencies with which the tasks were performed by the worker; (3) to determine tasks common to the three occupations and those unique to the individual occupations; and (4) to determine the possibility of clustering tasks of similar functions.

Shipley (1967) found eleven tasks to be common to all three occupations; clean shelves; clean bathroom fixtures, clean mirrors; remove accumulated trash from rooms, vacuum floors, rugs, and/or carpets; remove spots from woodwork; dust woodwork furniture, picture moldings, light fixtures, and radiators; report accidents to proper persons; replace supplies in bedroom and bathroom; remove soiled dishes from room; scrub bathroom floors.

The tasks with the mean score of 1.90 and above were classified as unique to the occupation. The findings indicated that the occupation of homemakers/home health aide involved many tasks which were not common in either of the other occupations studied. Tasks unique to the occupations of hotel/motel housekeeping aide and nursing home housekeeping aide were identified.

Correlation of responses of each task with those of every other task within the three occupations were computed. Six clusters were obtained based on highly intercorrelated items and task functions. The five identified clusters were: food production; child care; household tasks; household

maintenance; care of ill and disabled adults; and safety.

On the basis of the findings, Shipley recommended that knowledge and competencies of tasks found to be common to the three occupations be determined to provide a basis for a training program in the home-related occupations. Also that knowledge and competencies of tasks unique to the homemaker/home health aide be determined to provide a basis for training.

Carpenter (1968) pursued the study further, and her objectives were: (1) to identify the competencies needed for tasks and clusters of tasks found to be common in the three home-related occupations of homemaker/home health aide, hotel/motel housekeeping aide and nursing home housekeeping aide; (2) to identify the common competencies needed for the common tasks and common clusters of tasks, (3) to distinguish between those needed competencies important and not important for entry into the three occupations; and (4) to determine the clusters of similar competencies.

The data were received from 28 homemaker/home health aide directors, 25 motel/hotel managers and 27 nursing home managers. The investigator used chi square to analyze the items that had an expected frequency of five or more in a cell. Findings indicated that managers would prefer short course training programs if they were offered to the homemaker/home health aides before entry. Sixty-seven of the

80 managers replied that they would be more likely to hire an aide that had previous training. That was an indication that the employers felt a need for training for competencies directed toward the trainees' prospective jobs in a pre-service training program.

A core of 56 competencies common to the three occupations; 40 competencies common to the two occupations of motel/hotel housekeeping aide and nursing home housekeeping aide were identified. When subject matter content was examined, the data indicated that all but one item might have been classified into one of the following four clusters: safety, household maintenance, care and operation of equipment, and sanitation. Also competencies common to the occupations of motel/hotel housekeeping aide and nursing home housekeeping aide showed that all but one item could be classified into one of the following three clusters: housekeeping maintenance, care and operation of equipment, and reporting procedures.

The data indicated that homemaker/home health aide directors felt a need for desire for the majority of the common competencies to be gained by their aides before entry into the occupations. The nursing home and motel/hotel managers indicated willingness for aides to gain many of their competencies after entry into the occupation.

On the basis of the findings, Carpenter recommended that

a core training program for employees be developed and tested to include the 56 common competencies for the occupations of homemaker/home health aide, motel/hotel housekeeping aide and nursing home housekeeping aide. That persons interested in all three occupations be trained in the core training program, and that those interested in motel/hotel and nursing home housekeeping aide training remain for the second phase of the training. That training for the unique competencies for each occupation be offered in addition to the core course. The study by Carpenter was a contribution to the three occupations in that it gave information needed for a practical training program for the occupations.

Another study based on the task analysis by Shipley (1967) was that of Ruehr (1969). The objectives of the study were: (1) to identify the food production and child care competencies needed or not needed to perform the unique tasks for the homemaker/home health aide occupation as identified by homemaker/home health aide directors; (2) to distinguish between the needed competencies that are important and not important before entry into the occupation; (3) to determine logically the clusters of competencies judged important for the occupation and (4) to compare the differences among directors from various types of program orientation as to the competencies needed to perform the unique tasks.

Ruehr (1969) clustered the competencies according to subject matter and seven clusters were formed: guidance, physical-motor development, social development, child care, safety, meal planning, and kitchen maintenance. The data were examined to determine the differences among types of program orientation, and chi squares and mean scores revealed that there were differences between welfare and voluntary and the health-oriented agencies on all competencies related to child care. Welfare and voluntary agencies identified those competencies as sometimes or usually needed. But a majority of health agencies identified them as not needed.

Examination of the data as to when the competencies were needed revealed that the majority of directors of each agency type seemed to feel that nearly all competencies were needed or desired before entry into the occupation of homemaker/home health aide. Chi square values did not reveal any significant differences among agency types as to when competencies were needed.

Recommendations of Ruehr (1969) based on the findings of the study were: (1) that a core training program to train employees be developed and tested to include the 66 competencies needed by the three types of program orientation; (2) that a second phase of the training program be developed and tested to include the 73 competencies needed

by welfare and voluntary-oriented agencies; (3) that all types of homemaker/home health aide agencies be encouraged to broaden their range of services in keeping with the definition of an aide...; (4) that area schools and other adult education agencies be encouraged to offer training o-r homemaker/home health aides which includes competencies needed by homemaker/home health aides as identified by Carpenter (1968) and Ruehr (1969).

Priester (1969) conducted a five-year pilot project in Alabama in which she worked with 14 nonprofessionals in five counties. The nonprofessionals were supervised by home economists. The state administrative staff included a specialist in educational methods, an assistant specialist, and an artist.

The working visit, one-to-one teaching method in the homemaker's home, taught by telling, showing, and repeating a skill was used. Each visit was designed to meet the specific interests and needs of the homemaker at her economic, educational, and skill level.

The findings indicated that personalized informal learning experiences helped deprived young homemakers raise their level of living, encouraged mothers and families to grow out of the relief cycle, and raised self-esteem, hopes, and aspirations. The study also showed that program assistants can conduct an educational program, if they are

continuously supervised and trained by an experienced Extension home economist who has access to the resources of the Land Grant University. Another indication from the findings was that individual teaching situations are necessary if most low social-economic families are going to raise their level of living. These learning experiences must begin with the interests of the homemaker. Program assistants must encourage the application of a learned skill.

Green, Wang, and Ephross (1972) conducted a longitudinal study of the Expanded Food and Nutrition Education Program. The objectives of the study were to examine the neglected issues of: (1) appropriate criteria and standards of comparison; (2) the point of diminishing returns in continuing visits to homemakers; and (3) the broader impact of the program on selected health variables. The three-stage longitudinal study of Maryland EFNEP used two counties, one was the Appalachia which was primarily black. About 93 homemakers were able to be retained in the program for two to three years.

The researchers used two methods of collecting the data, the first one involved what they called a historical standard. This method involved comparing homemakers' behavior of the first experimental group in the third year of the program with their own behavior earlier in the program to

determine the point at which educational efforts directed at individual change in the poor are no longer productive. The second method was what the researchers called a normative standard, in this method the researchers used friends designated by the homemakers as a comparison group.

The results of the experiments showed that the Caucasian homemakers were progressed out of the program in much larger proportions than Blacks. The decision to progress out the homemakers after the first year of contact was influenced by educational level of the homemakers and also the decision of the administrative staff and the supervising agent, as well as the mutual agreement between the homemaker and the aide. Other points of interest were that the large proportion of continuing homemakers were mostly from rural communities. The economic background of the homemakers also was an important point to decide whether or not the homemaker continued or progressed out of the program. Green et al. (1972) found that homemakers who continued in the program were more economically dependent and socially disadvantaged than the homemakers who progressed out of the program. The results also revealed that the continued homemakers were older, on the average, with a large number of dependent children and fewer adults in the household to assist them. The age of their youngest child also was found to be younger than the homemakers who were progressed out of the program. The

social contacts with the homemakers who continued to be in the program tended to be poor. They did not indicate having any contacts with friends or engaging in community social activities. The researchers concluded that those homemakers who were progressed out of the program were better off socially, financially, educationally, and in terms of their family composition and alternative social contacts.

As far as the helping relationship between the aides and the homemakers was concerned, 100 percent of the homemakers said that the aides were helpful to them in learning to eat or cook new or different food and seven percent of the discontinued homemakers said that they did not receive any help in learning the above mentioned points. At the end of the second year, one-third of the continued homemakers said that they received emotional support from the aides. Other help mentioned by the homemakers was comparison shopping practices which was mentioned by 22 percent of the continued homemakers and 36 percent of the progressed out homemakers. Handicrafts and sewing were mentioned by 16 percent of the continued homemakers and 11 percent of the terminated homemakers.

The researchers concluded that major gains in nutritional adequacy were achieved in the first year of contact between the aides and homemakers and that there was a definite deterioration in the diet of continued homemakers in

the third year of contact. The nature of the gains in the third year were primarily in moving people from "fairly well-balanced" to "well-balanced" meals, without much change in the proportions of those continuing to have poor diets. When homemakers were asked whether any of the food prepared the day before was learned from the EFNEP aide at the end of the first year, 31 percent of the continuing homemakers said yes, 44 percent the second year and in the third year group the percentage went down to 41 percent. The researchers concluded that the point of diminishing returns on the addition of food variations by the EFNEP aides was two years. Also that the benefits of the program to the third year homemakers was of minimal value beyond the achievement with the same homemakers in the first two years. The progress in knowledge, attitudes or behavior from the first year through the third year was not found to be enough to justify the continued services of the same families. It seemed more important to start with new families by the end of the second year.

From the results of the experiment, Green et al., (1972, pp. 29-30) made the following suggestions: "...that the strong, emotional support provided by the aide in the first year has tended to produce an optimistic but passive and dependent homemaker whose own initiative in planning and coping has been abdicated to the aide and to other external forces."

This weakness in the program can be avoided if the training program of the aides recognizes such needs and tries to meet them either during the in-service or pre-service training. Green et al., (1972, p. 29) suggested that "greater emphasis be given to the training of aides in techniques that reward the homemaker for initiative and reinforce acts that represent control rather than dependence." Other techniques indicated as being important for the aides to learn were evaluation techniques. The aide needs that in order to evaluate her own progress with the homemaker in what she is trying to change.

Other suggestions made by researchers related to the scope of the program's objectives. They felt that the point of diminishing returns may have been partly a function of the limited scope of the program's objectives. That "additional progress in nutritional practices beyond a certain point may depend on meeting certain other needs first"

(Green, et al., 1972), p. 29). They observed that "...some gains are lost in the third year while some other major concerns and needs, namely health, remain unmet. The homemaker ...loses interest in new recipes and balanced meals as her health needs become intensified. Whether there is a cause-effect relationship between the two and which precedes the other are not so important as the apparent need for the program to deal with both in a comprehensive rather than

categorical way" (Green, et al., 1972, p. 29). Broader scope, various teaching techniques, and more in-depth of subject matter emphasis in training of the aides is apparent here. If it is believed that education is a lifetime process, the aides and the homemakers are no exceptions. They cannot continue to learn throughout their lives if their learning activities are limited in scope and depth.

Smith (1972) conducted a study and its objectives were: (1) to identify tasks and determine frequency of task performance of food aides working as program assistants with low-income families in the state of Iowa; and (2) to determine whether there was a significant relationship between tasks performed by the food aide in rural and urban areas, length of time on the job, and educational level of the aides.

One hundred and sixty-seven aides responded to the task list by Smith (1972). The study indicated that the majority of the aides lived in population centers of more than 2500 people and that about one-fourth lived in rural areas. The majority of the aides had also finished high school or attended some college and only 7 percent did not attend high school. The largest group of the food aides were between 26 and 45 years of age. A few were under 25 years and none were over 65 years.

The correlation matrix was examined and ten clusters

of tasks were formed. The clusters were classified as: communication, teaching nutrition, purchasing food, special diets, supplementing resources, food and health care for children, housekeeping, health problems, family relationships, and clothing needs.

Tasks with high frequency of performance and consequently high mean scores included clusters relating to teaching nutrition, supplementing resources, and purchasing food. Smith stated that high frequency performance mean scores 2.75 on a 3-point scale for tasks related to food and nutrition gave evidence that food aides were teaching low-income families about food and nutrition. The lowest frequency scores, 1.90 and below, were observed to be clusters related to clothing and special diets. This indicated that aides were not called upon to perform these tasks very often. Twenty-one tasks had a mean frequency score below 1.9 indicating less frequency of performance, and eight tasks had a very high mean frequency (above 2.90) signifying performance by almost all aides.

Some of the recommendations made by Smith (1972) from the results of the data were: (1) that specialists and supervisors of aides develop a training program based on this study of identified clusters of tasks most frequently performed, and (2) that a follow-up study be conducted to identify competencies needed to perform tasks identified.

The present study is a follow-up study based on the recommendation by Smith (1972).

Whitmarsh (1966) conducted a study to determine knowledge in child development and guidance needed by both mothers and employees in selected child care occupations. The three occupations selected in child care were: (1) day care foster mother; (2) day care center director; and (3) child care assistant.

An instrument consisting of 68 items of knowledge in child development and guidance was used to collect the data by means of interview. Selected for interview were 20 day care center directors, 20 day care foster mothers, 20 mothers of preschool children, 10 day care licensing representatives, 10 social workers, and 10 child development specialists. All responded to the instrument with respect to their present job, but day care center directors responded according to the level of understanding they felt day care center assistants would need.

The investigator considered items with mean score of 2.5 or greater as needed by the group. Items with mean scores of 3.5 or greater were considered by the investigator to need considerable understanding, and the ones with mean score of 4.5 or greater as needing thorough understanding.

The results of the study indicated that reasonable knowledge was needed by all four groups for 56 of the 68

items. Day care center directors felt that they needed a greater depth of understanding of knowledge in child development and guidance than did their assistants, especially in areas concerning social, emotional, and intellectual development of infants and children. Also mothers and workers in the three occupations felt that they needed different amounts of knowledge in child development and guidance. Workers in the three occupations felt that they needed different amounts of knowledge in child development and guidance.

Based on the findings of the study, Whitmarsh (1966, p. 101) recommended that "the common knowledge might be included in a core course and the knowledge unique to only one purpose might be included in an advanced or separate course" when planning a curriculum. Further recommendations were made that items of knowledge needed in common by mothers and employees in all three occupations related to child care be included in core courses at the high school level. Items unique to different groups may be taught in separate classes or in advance courses. A post-high school training was proposed for more specialized courses for day care directors and other employees and mothers who were out of school.

Barney (1970) conducted a survey using one rural, and two urban projects which were: (1) a maternity and infant care project in rural North Carolina with a nutrition and

home economics staff of one nutritionist, two home economists, and six aides; (2) a child and youth project at Roosevelt Hospital, New York City, with a staff of one nutritionist, and two aides; and (3) a child-youth project at Bellevue Hospital, New York City, with a staff of one nutritionist and one aide.

A two-part questionnaire was developed and sent to each of the project directors during the first week in April of 1969. In part one of the questionnaire, three nutritionists, two home economists, and nine aides listed their activities for each day for 10 consecutive days in April. In part two the five professional workers: 3 nutritionists and 2 home economists were asked to answer the question "in your opinion, have nutrition and home economics services been extended in quantity and quality since the introduction of the aides to the program?" (Barney, 1970, p. 115).

The findings of the survey indicated that more families were able to be reached as a result of using the aides in the program. The aides had time to make home visits to teach and give necessary follow-up and support, some were bilingual and could communicate with the Spanish-speaking patients more readily; they understood the culture of the patients more readily and knew the local resources available to patients. The aides were able to benefit from training and could use their own abilities as homemakers.

Barney (1970, pp. 118-119) delineated some of the factors which may limit the use of the aides as follows:

- (1) An appropriate, meaningful title for an aide or auxiliary worker in nutrition and home economics services has not been determined.
- (2) The staff and the public need help in recognizing an aide's special contribution while, at the same time, being made aware of the limits of her knowledge and skill in a specific discipline.
- (3) Unless the aide experiences job satisfaction, there may be a high rate of absenteeism and a reluctance to perform tasks considered by her to be menial.
- (4) When adequate provision is not made for transportation for home visits, services are hampered. In some areas, this necessitates having a car and knowing how to drive.
- (5) The number of staff and the amount of staff time needed to provide continuous quality supervision, guidance, and support to aides can be limiting factors, and in some instances, there may be a reluctance on the part of staff to recognize this need.
- (6) Professional staff may have had few opportunities (a) to learn to supervise, guide, or support aides and (b) to examine the total service needs of the patients in order to know what duties to delegate to the aides in nutrition and home economics services.
- (7) Difficulty is sometimes experienced in providing sufficient in-service training from other disciplines on the health team.
- (8) Job descriptions and requirements of some state and local merit systems may restrict the recruitment of indigenous aides most suited for work in health programs.
- (9) Opportunities are limited for basic education which is sometimes needed by the aides in addition to in-service training.

- (10) Courses with academic credit that improve job performance and also provide for upward mobility in the profession have not been identified in nutrition and home economics curricula.
- (11) Few career ladders for aides in nutrition and home economics services have been developed.

These factors include competencies needed by the home economists to direct meaningful aide programs as well as competencies needed by aides to be effective workers. It was observed by the writer that some of the experts who examined the clusters felt that some areas of competency were not important for the aides to command but Barney left no doubts of their importance.

THEORETICAL FRAMEWORK

Task and Competency: Concepts and Processes

Tasks as job elements, form the founding blocks for any job analysis or competency research. Excluding tasks to the study of competencies would raise the question: "competence for what?" or "competence to do what?" Beavers and Ruehr (1972, p. 201) stated that "to identify competencies, it is necessary to conduct a task or job analysis in order to find out what the worker does and to be more responsive to requirements of the job market." Hence, competencies taught in vocational schools should not be dictated by the desires and values of the educators but by the needs of the students and the society which the students will serve. Mager (1967) suggested that the first step in developing the vocational curriculum is to conduct a task analysis of a job since the tasks are the elements that make up a job. The activities or tasks play an important role in the field of vocational education as stated by Mager (1967, p. vii) "Just as an atom can be only described in terms of activity, so can the resources of an educational environment be more fruitfully described in terms of what they do and the role they fulfill in realizing the system's objectives." In order to complete a task, a person may have to perform many but related activities which may follow a certain pattern or

procedure. A task as a concept is defined differently by different authors, but Mager (1967, p. 10) defined a task as "a logically related set of actions required for the completion of a job objective...a task is a complete job element." According to Mager (1967, p. 10) a job is a composite of many tasks.

Task analysis is a process which involves many stages or steps. Different researchers have proposed varying ways of conducting task analysis studies. Mager (1967, p. 10) suggested the following steps: (1) "list all the tasks that might be included in the job..., (2) list the steps involved in each of the tasks on the list in terms of what the person does when performing the step, (3) indicate the type of performance and (4) identify the learning difficulty when teaching particular task skills." The approach taken by Mager started from a simple listing of tasks to a more complex process of analyzing the level of difficulty to aid the teacher when teaching particular task skills. This process becomes a useful tool especially when the educator may be teaching adults who bring with them different levels of understanding and different levels of job performance.

There are three parts to any job analysis as identified by the U.S. Department of Health, Education and Welfare (1964). (1) The job must be completely and accurately identified; (2) the task or job elements which describe the

duties and worker actions required in performing the job must be complete and accurate; and (3) the knowledge and skill which are required for each job element must be specified. It may be concluded that the most important elements that contribute to successful job performance are job identification, the duties or worker actions of a particular job, and knowledge and skills pertinent to a particular job. The last but not the least step in job analysis is the identification of knowledge and skills needed to perform a particular task. While it may be evident that competence involves other elements besides knowledge and skills, it is evident that knowledge and skills of certain subject matter involved are necessary to give an individual competence he needs to perform a task.

The task analysis approach used by the extension service was delineated by Lavery et al. (1965, p. 40) as follows:

1. Each worker keeps a record of the actual tasks and activities he performs for a given period...
listing specific tasks and activities....
2. The tasks and activities are categorized into duties. Categorizing various tasks and activities which have been developed from the list can be done by asking "why was this task or activity done?"
3. The abilities, skills, and knowledge required for successful performance of each task or duty listed will require one or more skills, abilities or knowledges for successful performances. Many tasks or duties will have the same requirements when a complete analysis is made, but listing all the various abilities, skills, and knowledge needed constitutes the job requirements.

Lavery warned that when the third point is reached, "caution should be used to make sure that the analysis is not concerned with the ability, skill, and knowledge of the present incumbent but rather that the analysis is based on the tasks and duties themselves and what abilities, skills, and knowledge are needed to perform them successfully." The first course or purpose of the activity should not be limited to one worker but rather delineated in a way as to absorb any potential competent individual on the basis of the worker's net performance.

Task detailing is one part of a task analysis process, it serves as a grid in educational activity planning. Mager (1967) listed the steps in the task detailing sheet as follows: list the number of times the task is performed, the frequency of the task performance, the steps in performing the task, the type of performance, and the learning difficulty of the task. Mager intended the task detailing sheet to be a guide or indicator of time allotment to the subject matter taught. Mager felt that the more difficult and the more frequently performed tasks should be given more time and vice versa.

Task analysis may be used in different ways in vocational institutions. According to Mager (1967, p. 29) "the task analysis describes all the steps carried out in the performance of the job, whether or not the student knows how to perform

some of these steps before he enters the course." Many of the vocational educators contend that the course objectives should be based on the tasks the students are expected to perform on the job (Mager, 1967, and Fine, 1971). The ability for the participants to meet their required performance on the job depends on development of a means of insuring accurate, consistent information about what workers do and a reliable means of comparing the skill and knowledge requirements in a wide range of jobs (Fine, 1971). An honest dialogue about the needs of the program between the participants and the task analyst is necessary to insure maximum efficiency in task analysis and job execution.

Since a task has been defined as a job element, one may ask a question "what is a job." Lavery (1965, p. 15) et al. defined a job as a group of positions similar in their major or significant duties and tasks...a job...consists of similar duties and responsibilities which are performed by one or more employees. The U.S. Department of Health, Education and Welfare (1964, p. 1) defined job analysis "as a process of obtaining and reporting pertinent information relating to the nature of a job. It is the determination of these actions, skills, knowledges, abilities, and responsibilities which are required of the worker for successful job performance and which differentiate the job under study from all others." The definition is broad, but three concepts stand out as important,

job, skill and competencies, and tasks or job performance. An operationalized job analysis definition was stated by Culver (1967, p. 66) as follows: "job analysis is a method of analyzing activities carried on by a worker in a particular field so that a course of study training program can be developed, one that will "zero-in" on these critical or essential activities or tasks performed by the worker." Even though the aim of all job analysis is to obtain information which would aid in curriculum development, no other definition has linked the job or task analysis process as strongly with the curriculum development as the one by Culver (1967). From the above statements, it is obvious that job or task analysis should be an integral part of functional vocational curriculum development if the actual job performance is to follow logically. Job or task analysis is an important part of functional vocational curriculum development. For it is the outcomes of the process that are used to construct a functional curriculum.

It has been indicated in many instances through the literature that the last part of job analysis deals with identification of knowledge and skills needed to perform the particular job (U.S. Department of Health, Education and Welfare, 1964, Lavery et al., 1965). As defined by Webster (1964, p. 1366) skill means the "ability to use one's knowledge effectively and proficiently." Before one can be skillful

in something, acquisition of knowledge or understandings of concepts and content of subject matter is necessary. A combination of pre-service and in-service training is needed in the process of acquisition of knowledge and skills of a particular field.

The definition of the concept "knowledge" has been viewed differently by different authors, but the present writer preferred the one used by Warren et al. (1959, p. 24). Warren stated that "an individual's knowledge is defined as the information which helps him to set a context for social phenomena to be more easily comprehended. In other words, knowledge means possessing or being the possessor of information about anything." Other definitions include the ideas as ability of being familiar with situations gained through experience and so on. Knowledge and skills are some of the elements which may determine whether or not a person is competent to perform a certain job successfully.

Competence as a concept is defined by Beavers and Ruehr (1972, p. 201) as the "abilities needed to apply to practical situations the essential principles and techniques of a particular subject matter field." The stated definition indicated that acquisition of principles and techniques of a particular subject matter content was needed before application could take place. As stated by Bloom et al. (1965) application is a higher level of learning which requires a person to master the

knowledge and comprehension level before the application can be practiced.

Webster (1964, p. 298) defined competence as "skills, qualifications, characteristics, and abilities necessary for accomplishment of a job. Capability equal to requirement; adequate fitness or ability, the state of being competent." However it may be defined, competency means ability to do a job or a task well, meeting all the expected standards of a particular task, or job performance. The definition explains clearly that any mode of instruction directed toward developing competencies for students, must result in individuals who are well qualified and who possess the knowledge and skills required to perform particular tasks with specific performance standards in a particular job or occupation. In this respect, identification of competencies aid curricula planners in pin-pointing behavioral objectives based on identified needs through participants responses and competency analysis studies.

Clustering Technique as a Tool in Educational Curriculum Development

Job clustering is one approach that has been developed in response to the rising demand for vocational curriculum which would provide students with capabilities transferable across jobs. The increased emphasis on vocational training

and retraining in the last 10 years has alerted schools, industries and labor unions of the need to train competent individuals who can meet problems in various occupations. This is why vocational teaching has been directed toward educating for a cluster of jobs. Cluster as a concept may be defined as the "establishment of jobs, families, or groups with similar educational requirements" (Cunningham, 1969, p. 17).

The assumption behind cluster concept is that a student exposed to a curriculum developed for a cluster of jobs, should be better prepared to adapt to changing occupational demands. The very fact that American society is indeed a very changeable society intellectually, sociologically, economically and technologically is supportive of the attempts to build a generalizable base for curriculum applicable to a number of jobs.

The generality for teaching afforded by a cluster approach was supported by (Sjogren et al., 1967, p. 46) when he stated that "the more logical approach to curriculum development in vocational education is one that teaches the general skills, knowledge and understandings first as a basis for allowing training in a number of specific jobs." Sjorgren et al. (1967) did not indicate that there was any need for teaching directed toward meeting specific individual needs, but implied that individuals needed to be trained to perceive problems in

general, to apply knowledge gained in general. The structuring of any curriculum requires individuals to identify the objectives first. Rahmlow (1969, p. 4) stated that the clustering technique was a good basis for selecting curriculum objectives. According to Rahmlow (1969, p. 4), "since curriculum structure is very much interrelated with objectives, it is desirable that the clustering procedure facilitate the development of objectives." Such developed objectives become more relevant to the learners and the objectives of the program.

The cluster approach sets an environment where educational objectives can be derived and carried out. The statement above by Rahmlow (1969, p. 44) demonstrated this interdependence of the cluster approach to the derivation and development of curriculum objectives through the following statements. "The cluster approach to curriculum development facilitates both the derivation and the selection of objectives. The derivation of objectives is facilitated by the development of the cluster instrument...when an instrument for cluster analysis is developed, the elements for possible inclusion in the curriculum are set forth." Rahmlow (1969, p. 44) therefore considered cluster research as a technique which provided an empirical basis for selecting objectives.

Bushnell (1969, preface) viewed the ultimate objectives of cluster concept approach as a tool for producing "a

powerful vocational curriculum aimed at providing all students with entry level job skills...." The power of such curriculum comes from the fact that it meets the need of the learners. Among many other benefits which cluster studies provide are: bases for evaluation of students and the program, the guidance of students leading to individualized in-service training, or to selecting element of curricular studies to meet the needs of particular groups (Beavers, 1972, Rahmlow, 1969). Maley (1967, p. 22) defended the desirability of the cluster concept as it relates to contemporary societal and educational factors when he said:

1. The cluster concept affords a great degree of occupational exploration on the part of the student. It provides him with an opportunity to gain sufficient skill and understanding for job entry as well as the background to enable him to effectively appraise his interests and potentialities in the several specific occupations in the cluster....
2. The program in its multi-occupational direction provides a more valid and consistent educational experience relative to current techniques and instruments in the field of interest identification and assessment. The cluster concept provides a more compatible educational target with the changes of appropriate selection and tryout greatly enhanced....
3. The cluster concept program is aimed at vocational competence in an age of great geographical mobility....
4. ...the cluster concept provides within its framework, opportunity for a broad field of skill development as well as the potential for a sound program of basic education....

The information obtained from many researchers have made it possible to conclude that meaningful job clusters can be identified for curricula building. Thus curricula based upon competency cluster studies can be flexible enough to meet desired outcomes of students along with maximizing material human and other resources used. Geissemhainer (1967, p. 26) who conducted an eight year program in Prince George County, Maryland using Technical and Industrial students summarized the benefits of cluster concept as follows:

Prince George's County has found the cluster approach to be an effective and efficient manner of teaching Technical and Industrial courses. Employers have reacted with enthusiasm.... While the program has been designed for a specific labor market, it has many merits that are adaptable to a variety of locations.

The conclusions based on Maley (1967), Geissemhainer (1967) and U.S. Department of Health, Education and Welfare (1964) indicated that the results of cluster research may be useful to the educators and employers in areas of recruitment, employment, training, and utilization of manpower.

Educators are finding out that with so many changes in our social system, there needs to be appropriate methods for determining training requirements. Annett (1967, p. 2) stated that "at a time when powerful new training techniques are evolving, it is important that equally powerful methods for determining training requirements are developed." This

statement was issued in support of the clustering technique.

Beavers and Ruehr (1972, p. 205) pointed out some of the needed criteria for effective operationalizing the cluster concept as a tool in an education endeavor. They indicated that "the teacher will need to develop skill in the process of task and job analysis and translate this analysis into curriculum development. The teacher will also need further skills to evaluate effectively methods of teaching and student progress in obtaining the objectives." Obtaining information about job or vocation analysis is not enough ground for conducting a study. For the study to be completely useful, educators must put the information into action. Beavers and Ruehr (1972, p. 205) emphasized the importance of operationalizing the information obtained from task analysis into curriculum development when they said that "the most important task for the teacher is converting the job analysis into curriculum...instruction for the several occupations." Therefore a job analysis study which is not utilized in curriculum development may be useless to educators.

Educators and curriculum developers should be cautioned that the cluster concept needs to be regarded as a tool to aid in developing a curriculum and that it should not be used as replacement for curriculum. It should be used as a

complement and not as a supplement for the curriculum. As Hamreus (1969, p. 70) stated "job clustering is not the building of curricula. It is simply a tool whereby improved insight can become available regarding what and how jobs appear to be similar.... Once such information is available, and assuming it is valid, the task still remains to determine a strategy for converting this information into curricula that are effective in training the skills appropriate to a cluster of jobs." Hamreus (1969, and Beavers and Ruehr, 1972) shared the same view of utilization of gathered information about clusters of jobs or competencies. Maley (1967, p. 22) expressed the same view as Hamreus (1969) when he said that "the cluster concept should not be conceived as a total replacement for all other forms of vocational education, but should be regarded as a tool or form of vocational education that may contribute significantly to the total program of vocational education." This means that the cluster concept is only a part of the elements that contribute to development of curriculum, therefore it should not be viewed as the only element needed for curriculum development.

The cluster concept may be appealing to educators because of the ease with which it allows the students to fit into an occupational program and because of the feeling that:

Current curricula and instructional methods lack both the efficiency and flexibility necessary to enable each student to plan and procure the specific education which will result in his achieving that special combination of skills, and appreciations to prepare him for the role he selects (Flanagan, 1967, p. 28).

This quotation emphasized the importance of skill in relation to selected roles.

Other reasons which may have led to the adoption of the cluster concept as a curriculum development tool in vocational education were delineated by Bushnell (1969, p. v) as follows:

First, the breadth of experience which a job-clustered curriculum offers prepares the student for a cluster of related occupations, insuring mobility and a shorter period of retraining if necessary. Second, a curriculum developed in this manner provides more relevance for students interested in not just one but a variety of occupations.... Third, a cluster approach should be of some assistance in helping to break down the rigid barriers which have grown between the different service areas of vocational education. Through job-clustering, the common job skills can be identified across service lines.... Fourth, clustering helps to structure a curriculum in such a way that the student completing such a program should be able to advance more rapidly up a career ladder to higher levels of responsibility and income.... Fifth, through job-clustering, vocational education should establish once and for all the vocational educator's interest in the "total" man. It has been recognized for some time that attitudes, personality traits, and other adaptive skills are as important determinants of occupational success as are functional job skills. Job-clustering provides curriculum developers with the tools to incorporate these requirements into their curriculum design efforts (Bushnell, 1969, p. v).

The five points stated above by Bushnell were, breadth

of experience, relevance in a variety of occupations, interdisciplinary approach to curriculum development, advancement in a career ladder, and educating the total person. This should eliminate to some degree the element of job selection by trial and error and increase the potential of maximizing personal fulfillment and performance standards. Richness of such curriculum can not be underestimated and yet the saving of time is also evident. One important point here is ability of the cluster concept to accommodate for job ladder, and levels of learning. The clustering technique helps the educator to educate a total person to meet the need of his/her total environment, hence, benefitting the society in general.

Problems of Concern to the Clustering Technique

Although the clustering of jobs in vocational education has worked well and won acceptance to employers and educators, researchers have raised concern in areas of proper selection of criteria, and method of collecting and analyzing data for clustering. As stated by Sriramalu (1973), to proceed in a logical manner in a research endeavor, linkage between theoretical concepts and the empirical data are indispensable. Therefore, even though job clustering may be useful in providing a better description and understanding of the world of work, the technique cannot be a useful tool

to the curriculum planners if the criteria, the data collecting methods, the method of data analysis and proper interpretations of the results are not applied. Validity of the results depends very much on the instrument used to measure the variables. According to Warren et al. (1969, p. 1) instruments for measuring variables need to be developed if conclusions to the data are expected to be valid. Warren said that "when variables are measured with immature and weakly developed instruments, false conclusions and misleading generalizations may arise."

Prompted by the above problems of concern to research, the researchers set up a symposium in 1969 led by Dr. Cunningham at North Carolina State University. Some of the following views were derived from the papers presented at the symposium.

Sjogren (1969, p. 2) stated that "one of the most obvious difficulties with job clustering as now employed is that of the criterion or criteria that are used for clustering of occupations." Sjogren indicated that previously researchers had used criteria such as common behavior, levels of knowledge in subject matter areas, and competency clusters. The dangers Sjogren envisioned in using such criteria were lack of specification, and that one criterion under different conditions may produce different results. The example given by Sjogren (1969, p. 3) was from his

study. Sjogren observed that if the study was "based on common behavior -- feed salesmen clustered with other sales types. If a product knowledge approach were used however, it is likely that the feed salesman would cluster with livestock producers at least as closely if not more closely than with sales types." Although this may be viewed as a problem, it also may be viewed as a criterion for selecting clusters for related jobs. The problem continues to be of concern to the researchers because as yet the appropriate criteria for job clustering is not known. Research continues to be conducted to verify criteria for job clustering in the field of vocational education. Sjogren did not say that there will ever be developed one criterion which will fit all job situations, but he said that the researcher needed to decide on what criteria would be feasible for any specific clustering situation.

Lavery (1965) stated that several methods of data collection can be used, but the following methods are mostly used in job analysis studies: observation, interview, questionnaire, review of documents and other literature related to jobs, discussions with supervisors, working experience of the incumbent, and keeping a diary of activities. According to Lavery (1965) whatever method one may use, the choice may depend on the situation. That is, in one study the situation may call for use of only one method

of data collection while in another situation combination of two or more methods may be used.

Different techniques of data collection have been used by different researchers but Lavery (1965) stated that in recent years, many organizations have explored the use of critical "incident technique" as a means of collecting the data. The major purpose of the critical incident technique is to collect direct observations of human behaviors in such a way as to facilitate their potential usefulness in solving practical problems and developing principles. Because many times direct observations may lead to recording of only remembered incidences, modification of the critical incident technique to include work experience and keeping a diary of activities may be necessary. The flexibility obtained from the above procedure may make the method stronger in meeting the needs of the special situations (Lavery, 1965).

Sjogren (1969) stated that when clustering jobs, the most common method of data analysis is a job analysis technique which may be accomplished through combining jobs on the basis of similarities observed from the job analysis. The limitations Sjogren perceived for the job analysis technique were: (1) tendency to focus attention on the tasks that are observable and measurable, and (2) tendency to look at the common elements across jobs when clustering. The tendency to look at the common elements across jobs may

cause the individual to overlook the competencies unique to a particular cluster. If an individual looks at unique competencies in each cluster and meets those needs individually, then the problem may be solved.

A conceptual framework for the study of job similarities was proposed by Cunningham (1969). Cunningham was interested in forming clusters of similar jobs. Specifically his questions were related to the classes of characteristics on which jobs might be measured and compared, and the advantages and disadvantages of these characteristics in establishing job similarities for educational purposes. He based the above problem "on the axiom that a prerequisite to classifying objects or events is the definition of a set of characteristics on which the phenomena can be compared" (Cunningham, 1969, p. 18). Cunningham noted that the research done in the past had concentrated on three broad categories: (1) studies in which jobs were rated on basic human attributes, (2) attempts to measure and compare jobs on knowledge and skill elements, and (3) studies employing activity or behavior elements for job-analysis purposes. Cunningham argued that the above studies were directed toward specific variables which were applicable to only specific jobs, therefore he proposed that variables need to be defined which would be relevant to a broad spectrum of jobs. Cunningham (1969, p. 20) said that basic research still needs to be done

in the area of job clustering in both "the development of conceptual approaches, or frameworks, for the definition of job variables and in the definition of job variables in the validation of measuring instruments or techniques based on these schemes."

Cunningham's (1969, p. 20) broad conceptual approach to job similarities took the premise that "what is learned in one situation will transfer to others." The above premise led him to the assumption that when jobs were clustered in terms of similarity, the knowledge acquired from one job can be used to perform the other jobs within the cluster. "Thus, when we speak of grouping jobs or occupations for educational purposes, we are assuming that jobs within a given cluster are similar in the sense that certain core educational experiences could be established which would facilitate the learning or performance of all similar in this first sense (that is if they belong in the same educational cluster) then certain habits or capabilities acquired in learning to perform one of these jobs should transfer to the others: ...we could expect at least some positive transfer among jobs within an educational cluster" (p. 20).

The objective of the study by Cunningham (1969, p. 21) was to develop a conceptual framework, or taxonomy of job variables for which to define items which might prove useful in analyzing jobs for educational purposes. Cunningham (1969)

concluded that in such a case, positive transfer of knowledge would be expected among jobs within an educational transfer.

The problems of false conclusions and misleading generalizations have been identified by various researchers. These were due to improper linkage between theoretical concepts and empirical data; inadequacy of techniques due to unsatisfactory and shallow evaluation and interpretation of results. The validity of the results being, to a great extent, dependent on sophistication and sensitivity of instruments used for measuring variables. Thus, in spite of the fact that there is no unique method designed for data collection for clustering, this does not invalidate the feasibility of the concept. It allows for flexibility. However, proper identification of method, accurate isolation of parameters and sensitive delineation of supportive conditions are of prime importance.

Methodology Used in Cluster Studies

By now the reader understands that cluster studies are not limited to one area of concentration. Different criteria and parameters are used in cluster studies to meet varying conditions in the isolated situations. Therefore different methods of collecting and analyzing the data need to be used. Each researcher needs to select a method and technique that will be applicable to the purposes of his

study and the results expected. Literature cited in this section involves some of the research conducted in the cluster concept and used here to illustrate some of the methods in cluster studies.

McCormick et al. (1957) conducted a study the purpose of which was to determine the patterns of job requirements of a large, representative sample of jobs. Most jobs performed in the industry were obtained from the Dictionary of Occupational Titles (DOT).

A representative sample of 4,000 jobs was selected from the dictionary in terms of major occupational groups. The study followed the steps listed below:

1. a factor analysis for a sample of jobs of a large number of worker variables.
2. the derivation for each job of a factor-score on each of the resulting factors.
3. the grouping of jobs into "levels" on each factor.
4. the classification of the sample jobs into patterns in terms of the permutations of all possible factor score levels.

The data were made available through the Occupation Research Center by the U.S. Employment Service in form of IBM cards. Forty-four specific variables which fell into six classes were used. The six classes were primarily worker oriented as opposed to job oriented "in that they reflected the worker attributes that presumably were differentially pertinent to success on various jobs" (McCormick et al., 1957, p.

358). Therefore, they were termed requirements.

The variables used were: training time, aptitudes, physical capacities, temperaments, adaptability to conditions or circumstances that involve other identified variables, interest, interest in (other identified variables), working conditions, adaptability to conditions (categorized).

Product-moment correlation was applied to identify the factors. Seven factors and a few variables were identified. Regression was applied to the data analysis using the 7 factors and 4 variables. Each of the 4,000 jobs were factor scored using the 7 factors. Patterns of jobs were observed.

The result of the study indicated that the permutations of factor score levels made possible a total of 192 unique patterns; and the jobs fell into only 115 of the patterns. Very wide variables were observed in the patterns into which jobs did fall. Twelve patterns accounted for 60 percent of the jobs, 20 patterns for 75 percent of the jobs, and 33 patterns for 88 percent of the jobs. McCormick et al. (1957) concluded that there was heavy concentration of jobs in relatively few patterns of jobs requirements. It was also concluded that jobs collectively did not scatter themselves to the four winds as far as job requirements were concerned, but fell into certain predominant molds. The implications of the study proposed by McCormick were in terms of placement, vocational guidance, and other purposes.

Palmer and McCormick (1961) planned a study to develop a check list of job activities of a "worker oriented" nature which were used in describing a sample of jobs. The results were subjected to factor analysis in order to identify the work activity "dimensions" of the job in question. The job was viewed as having two dimensions: a "job oriented" view which placed more emphasis on the conditions and the results of work, and a "worker oriented" view which tended to place more emphasis on worker activities.

A 177-item check list was used, describing job activities in terms of worker behaviors. The major parts of the check list were categorized as follows: (1) information-receiving activities, 35 items, (2) mental activities, 43 items, (3) supervisory and communications activities, 33 items, (4) manual activities, 25 items, (5) general body activities, 24 items, (6) general work conditions, 7 items, and (7) general job characteristics, 10 items.

Palmer and McCormick (1961) took a job sample to represent job structure of a large steel producing firm. Out of 10,000 estimated jobs in the company, job descriptions were available for about 5000 out of which a sample of 250 jobs was drawn. The composition of the sample was: (1) exempt salaried jobs, 40 percent-described in terms of purpose, function, skills, knowledge, and responsibility,

(2) non-exempt clerical jobs, 10 percent, described in terms of task and time distribution and (3) hourly paid jobs, 50 percent, described concisely in terms of functions, education, supervision, and other conditions as given by the Cooperative Wage Bureau for steel industry jobs.

Since the objective of the study was jobs and not personnel or positions, the jobs were not sampled in proportion to the number of incumbents. Each job was analyzed in the sample on the basis of the information in its descriptions in terms of the items on the check list. The reliability of analysis was estimated from the degree of agreement between component analysts from a sample of 32 jobs. The reliability data were based on 130 items from the total list.

The factor analysis of 5 sections of the worker activities check list produced 14 multiple-group factors. A subsequent factor-analysis of the jobs in terms of their scores on these 14 factors and 14 other selected variables produced 4 more general factors.

Examinations of the original 14 factors and the 4 final factors led to the conclusion that a number of factors seemed to make a reasonable amount of "logical sense" and that certain of the factors seemed to be rather distinctly influenced by what apparently were fairly unique facets of some of the jobs in the particular sample in question. Palmer

and McCormick concluded that the results tended to support the view that work activities can be identified or measured and that the variety of human work activities may be organized with greater simplicity and economy in terms of a smaller number of relatively independent dimensions.

Orr (1960) conducted a study which concentrated on a new method for clustering jobs. The data used for the study was gathered by the U.S. Employment Service and 4,000 jobs were used. the component used for study was aptitudes necessary for successful job performance. The statistical method for use in data analysis was the D measure. The D measure was said to be a generalization of the geometric formula for the distance between two points in a plane. The basic use of the statistic in the study was to demonstrate that jobs were or were not distant from one another in order that they might be divided into relatively homogeneous groups which would be relatively distinct from one another with respect to the underlying system of aptitude dimensions. Jobs which exhibited small Ds were said to be similar and were dissimilar to other jobs with large Ds. Two independent samples of 140 jobs each were rated on the basis of extent to which verbal mechanical, spatial, form perception, clerical perception, motor coordination, finger dexterity, and manual dexterity were clustered independently and formed six clusters. A third sample of 28 jobs, four chosen at random

from each of seven coded areas of the Dictionary of Occupational Titles was rated using the same procedure.

Orr (1960) reported that the approach held some promise for dealing with the classification and functional structure of various job demands. The content of the clusters exhibited showed a differentiation in terms of intellectual supervisory, mechanical-manual and clerical jobs, with further differentiation on the basis of level of aptitudes required for success. Orr concluded that the use of the Distance Measure, and employing the clustering technique to define job structures showed sufficient promise to warrant further investigation.

Schultz and Siegel (1961) conducted a study, the objective of which was to investigate whether technical proficiency criterion measurement instruments could be constructed which could be applied across several related naval job specialties (ratings) and which could be scaled across these ratings by both the Thurstone and Guttman techniques. Two steps were used in order to achieve the purpose: (1) development of behaviorally based items that were general enough to apply to the skills included in the several ratings and yet covered the important duties of each rating and (2) scaling of items over the several ratings.

Electronics was selected as a broad area of study. A preliminary task list was developed by constructing a

generalized technical skill check list. In an endeavor to prepare a check list, the following sources of information were consulted: (1) previous applied psychology studies of naval technicians in electronically oriented specialties and (2) staff members of the Naval Air Technical Training Command. A list of 28 tasks was prepared and submitted to 28 instructors at the Naval Air Technical Training Command for comments. All 28 tasks were retained for a preliminary test list. A seven point continuum was prepared and presented to the respondent and was administered to the 242 enlisted supervisory personnel in the four ratings studied. The supervisors were distributed among three pay grades.

The Thurstone scale was used to analyze the first list of 28 tasks. The same 28 tasks and the same supervisors were used and the Guttman Scale was applied to furnish the data for the evaluation of individuals rather than tasks. Each rater was asked to evaluate a technician he had supervised. A total of 181 technicians were evaluated. The Guttman scale was used to analyze the data and the Thurstone scale was used to establish scale for 4 related naval job specialties.

After establishing scale for 4 related but different naval job specialties, Schultz and Siegel (1961) concluded that it is possible to generalize a function by divorcing it from a specific context and still retain its meaningfulness

in different situations. Analyzing known functions could lead to a plausible explanation of a related unknown function. Conclusion was also that the application of the technique would seem to be of value to understanding the basic structure of jobs and the interrelationships among them. Significance for the development of training programs was said to be a possible part of the contribution of the results of the study. It was said also to be of value in describing the work performed by the men in related jobs, the sequence of technical skill development, and job evaluation.

Jaspen (1949) studied data from the U.S. Employment Service Occupational Analysis Division, and the purpose of the study was to determine what basic factors were measured by the worker characteristic form. The form included 45 traits or abilities which may be needed by the worker to do the job. Out of 45 traits, 20 were used. A total of 275 occupations were included in the study.

Through the use of factor analysis, the 20 worker characteristics were reduced to six meaningful factors: strength, intelligence, inspection, physically unpleasant working conditions, manual dexterity, and mechanical information. The six factors were regarded as dimensions along which jobs were classified.

Jaspen (1949) concluded that such factors may be sufficient for the broad mass of industrial jobs but not the

professional level. Also further breaking up of various categories or factors would be more meaningful, for example intelligence could be broken down into at least verbal, numerical, and spatial factors commonly found in the literature.

The study by Coombs and Satter (1949) was undertaken to adapt job analysis to the techniques of multiple-factor analysis. Data related to 70 jobs in a large mid-western papermill were collected by means of personal interviews with employees on the job as well as with supervisors. Observation of the employees on the job was used also. The data were used as a basis for job descriptions. Specifications for the job were made by the immediate supervisors and department heads. The specifications supplied raw data for the analysis of the study.

The specifications were recorded in the form of a "rating" on a Standard Specification sheet. Eighteen judgments of various aspects of skills and knowledge required by the jobs were recorded on the sheet. Each of the 18 items was prefaced by a brief statement defining a particular knowledge or skill area by three or four alternative phrases or statements of various degrees of skill or knowledge. The alternatives were regarded as elementary in the Coombs and Satter study. One hundred and four elements or phrases in the instrument were arranged along the following

categories: education, work, application, social and personal, and activity and distribution. The 70 occupations were reduced to 54 to reduce the labor. Correlations between 54 occupations were computed on the basis of the number of common elements.

Since the study was to serve as a pilot project, the matrix of correlations of 54 jobs was determined to be too large an order to factor. Submatrix of order 20 x 20 was therefore selected. Twenty variables were selected and their intercorrelation matrix was factored by the complete centroid method to six factors.

Coombs and Satter (1949) concluded that some jobs correlated while others did not correlate or cluster by use of factor analysis. Coombs and Satter suggested that other methods of statistical analysis be tried.

Studies Related to Cluster Concept

Different occupations in recent years have been interested in cluster studies as a means of improving their curricula. Many educators have reported great satisfaction derived from such an endeavor. The succeeding pages will attempt to present some of the cited studies conducted as a consequence of the need to identify needed clusters of competencies in various occupations. Schill and Arnold (1965) conducted a study to determine the possibility of a

core curriculum content for six technologies: electronic, chemical, mechanical, electro-mechanical, and chemical-mechanical technologies.

A modified Q-sort technique was used to collect the data. Schill and Arnold prepared a group of cards to represent the content of courses taken by technicians in preparing for their various jobs. Each card contained a brief description of course content. The information included in the card sort was obtained by means of abstracting course description from approximately 100 technical institute catalogs. Over 250 cards were originally developed but were later reduced to 90 cards. To come to the final number of 97, the original cards were administered to a panel of experts to identify those cards which described course content functionally related to the technology with which the experts were concerned. The experts represented were in the faculty of the University of Illinois at that time from the following departments: mathematics, physics, chemistry, microbiology, engineering, graphics, electronics, labor and industrial relations, and business management.

After modification was made on the cards as suggested by the experts, Schill and Arnold (1965) conducted three pilot studies using 28 technicians. As a result of the pilot study, two more cards were added to the card sort deck. The data for final analysis were collected from 348

technicians and 90 management personnel. The respondents were asked to sort the 99 card deck into three stacks:

(1) cards judged as related to the job of the technician,
 (2) cards judged as somewhat related, and (3) cards judged as unrelated. The items in category three above were deleted from further analysis, but category one and two were subjected to further analysis. A two-mode factor analysis was used to analyze the data. The result of the data analysis indicated that there was a significant relationship between the responses of technicians and management concerning curriculum needed by technicians.

The conclusions from the data were stated as follows:

The core program and the specific programs for the technologies embrace a total of 37 cardsort items which could be conceived as course descriptions. To be able to offer programs in six technologies with a total of 37 courses, many of which would be included in the basic academic offerings of a junior college, takes a considerable burden off the typical post-high school educational institution in that each technology does not require a complete, unique curriculum (Schill and Arnold, 1965, p. 91).

Altman (1966) conducted a study to identify general vocational capabilities (skills and knowledge). A sample of 31 occupations was drawn for study. Jobs within each occupational group were listed and their component tasks were described in behavioral form. A random sample of the listed task behaviors was drawn from each occupation. Each of the selected behaviors was translated into multiple-choice test

items.

The constructed tests for each occupation were administered to about 10,000 students in two separate school systems from grades 9 through junior college. The data obtained were factor analyzed and results were reported.

Altman (1966) reported that the most important implication of the study was the indication of a definable and well-structured domain of vocational capabilities which previously had not been well defined. This domain of vocational capabilities was being systematically taught by educational institutions. The domain was compatible with and intimately related to existing academic disciplines and specialized vocational awareness, vocational choice, and career planning. Altman concluded that if properly used, the domain promised to enhance the flexibility with which students could apply the results of their educational experiences. Proper application of results of the data are vital to progress and fruitfulness of any program.

Mills (1966) conducted a study to identify specific knowledges and clusters of knowledges most widely used in major types of work commonly done by electronic technicians and to identify knowledges which were needed by technicians in performing principal tasks. Mills classified principal tasks as: diagnosing trouble in systems, adjusting and/or operating; servicing; assembling; installing; designing and

computing; application distribution and sales in electronics; and quality control testing.

After consulting text books, curriculum guides, and courses of study a questionnaire consisting of 643 knowledges was constructed and administered to a sample of 64 workers as a representative of a national pattern of electronic technician workers. After submitting the same questionnaire of knowledges to a jury of three electronic professors to check for relevance of items, the final questionnaire was constructed. Mills obtained a list of 549 firms which employed electronic technicians in the Puget Sound area. Mills (1966) conducted personal interviews to obtain facts about tasks performed by technicians. A list of each group of technicians performing each principal task was prepared out of which a random sample of 20 technicians performing each principal task was selected. One hundred fifty-four usable questionnaires were returned and coded for analysis.

The result of the data analysis showed that 84 of the 643 knowledges identified to be useful in some phase of electronic technician's work were deemed essential for six of the eight principal tasks performed by technicians. Mills (1966) concluded that the information obtained from the study could be used to construct curricula which would equip the trainee with entry job knowledges, in-service training for advancement on the job, and occupational adaptability and

mobility.

Sjogren et al. (1967) conducted a study to determine whether common behaviors could be identified across occupations. The purpose for identification of common behaviors was to use the results for curriculum building.

Forty-seven agriculture occupations and 36 occupations in the metal fabricating industry were selected for study. An average of between five to six interviews were conducted with each incumbent in each of the occupations in Colorado and Nebraska, making a total of 466 interviews.

The interview schedule contained the following categories of check lists: general work environment items, a clerical, a physical activities, a personnel contact, and a supervisory level check list. The additional 42 items were divided among 5 major behavioral dimensions; physical, discrimination, intellectual, responsibility and decision making, and communication behaviors. A four-to-seven point scale was used for scoring behaviors. The scale yielded 312 separate scores for each interview. The conclusion of the scores resulted in 357 scores for each interview. Twenty-eight scores were dropped after data analysis and the remaining 329 were used for study.

After the three-axes factor analysis was applied to the remaining 329 scores, the conclusion was drawn that the

interview schedule was measuring several meaningful common behaviors. The procedure used to identify common job behaviors was intercorrelations among the occupants and a factor analysis. The mean score of 329 variables for 83 occupations was computed. The correlation matrices for the 47 agricultural occupations and for the 36 metal working occupations were analyzed using the principal axis method. Analysis was made also of the 83 x 83 matrix of the correlations among all of the occupations. Three factors resulted from the analysis of 47 agriculture occupations. The factors were interpreted as occupational clusters.

Three other factors resulted after the analysis of 36 metal working occupations. Four factors emerged when the 83 occupations were analyzed together. After analyzing each factor, a comparison was made of the clusters obtained by the analysis of interview responses and clusters based on judgment. The results of these comparisons indicated that in agriculture the clusters obtained from the analysis of the instrument were somewhat different from clusters based on judgments of similarity by vocational agriculture teachers. Whereas the instrument yielded clusters based on job behaviors, it appeared that the teachers were discriminating among the jobs on the basis of product knowledge. The comparison of the two methods in the metal working occupations indicated that the clusters based on the instrument analysis

were very similar to clusters based on judgments of job similarity made by trade and industry teachers.

It was felt that the results of the project did offer some curricular implications. The occupational clusters identified were reasonable, and the scoring pattern of the occupations in a cluster on the behavioral items were suggestive of different emphases that would be provided for in a curricula for the cluster.

Maley (1966) conducted an investigation for the purpose of studying the cluster concept as a form of vocational education at the secondary level. The objectives for the first phase of the project were: (1) to determine the acceptability and feasibility of the cluster concept approach, and (2) to identify certain occupational clusters. The final phase dealt with development of a series of course outlines for tasks performed and areas of human requirement needed within each occupational cluster.

A nonrandom sample of 31 leaders in industry, education, and labor was selected for exploratory interviews. Acceptability of the cluster concept was defined as an interviewee being in favor of the cluster concept as a program in vocational education at the secondary school level. Ninety-four percent of the interviewees indicated that the program was acceptable. Feasibility of the program meant that the interviewee responded that the cluster concept program was

acceptable for being implemented successfully. Eighty-one percent of the interviewees indicated that the program was feasible. The result from the industry showed that 14 out of the 16 persons interviewed indicated that the cluster concept program was acceptable. The negative reactions from the industrial members were attributed to the rigidity of job specifications set by the unions in the plants concerned.

Based on the first phase of the program's results, Maley concluded that: (1) there was a need and demand for training in clusters of families of occupations, (2) the cluster concept was acceptable as a program in vocational education on the secondary school level, and (3) the cluster concept was feasible as a program in vocational education on the secondary school level.

Maley (1966) identified three occupational clusters to aid in further study of the second phase of the program. The identified clusters were: (1) construction-occupations dealing with the building of homes, (2) metal forming and fabrication-occupations dealing with machining, forming, bending, and joining of metals, and (3) electro-mechanical installation and repair-occupations dealing with the installation and repair of electrical and mechanical equipment found in homes and business offices.

Task identification inventories were developed from a task list prepared for each occupation in the three clusters.

The inventories were submitted to a panel of occupational representatives of management and labor. The job entry tasks were determined and the areas of human requirements were identified as communication, measurements, mathematics, science, skills, and information. Each of the human requirement statements were written in behavioral terms and were coded according to the areas of human requirements. In order to identify common areas of human requirements for each occupational cluster, comparison was made of each behavioral statement with the behavioral statements in similar areas of human requirement in the other occupational areas within the cluster. This was followed by frequency tabulation intended to obtain the number of common behavioral statements that occurred within the occupational cluster. The tabulations were categorized as follows: (1) common to all occupations within the cluster, and (2) common to several but not all occupations within the cluster.

Based on the findings of the study, Maley recommended that task analysis and the identification of common areas of human requirement for each occupational cluster be used to provide the content for the establishment of a pilot cluster concept program in vocational education at the secondary school level. Thus, the usefulness of the data would be realized only after the specialization of the results has taken place.

Mietus, (1969) conducted a study of which the first phase was an investigation of the need and rationale for the cluster concept approach to vocational education. The objective for the second phase was the identification and training of competent teachers, and further development of curriculum materials to implement the cluster programs. The third phase was involved with evaluation of the adequacy and effectiveness of the curriculum guides, course outlines, and preparation of the newly trained teachers in a field setting.

Data analysis yielded three clusters, construction with four occupations, electro-mechanical installation and repair with four occupations, metal forming and fabrication with four occupations. The conclusion was made that the cluster concept was acceptable and feasible.

The task inventories were developed for the second phase of the program. The references used to gather information for the task inventory were courses of study, training manuals, review of job descriptions, text books, and active participation of recognized leaders from appropriate occupations. All tasks written in behavioral terms were submitted to panels of experts in industry representing the occupations forming clusters. Experts were asked to classify tasks into three categories, (1) not required in an occupa-

tion, (2) required "entry-level" tasks within an occupation, and (3) required soon after entry into an occupation.

The tasks described the work performed by an individual in an occupation and consisted of observable human behaviors involving more than one area of human requirements: communicating, measurement, skills, mathematics and science, and information. The frequency count of the data provided information to indicate which occupations had a strength of relationship or similarity in human requirements. The information obtained from the study was used to develop course outlines, building of achievement tests, student progress charts, and for evaluation of criteria for use during visitation to the schools implementing the programs.

Thirty teachers were identified for participation on the second phase of the study from the Maryland State Vocational Department. The number was reduced to 11 teachers after the screening of candidates was done. Included in phase two activities were: (1) the development of instructional plans for the programs, (2) the acquainting of teachers with instructional materials and equipment, (3) the preparation of occupational information units, and arranging the content of each cluster in an instructional sequence including the tasks and human requirements as specified in the first phase of the program.

Phase III, directed toward evaluation of the program in

terms of the adequacy and effectiveness of the curriculum guides, course outlines, and preparation of the newly trained teachers was accomplished through gathering of data of a descriptive, comparative and quantitative nature. Assessment of the impact of the first year of the program on the school administration and teachers.

Senior high school subjects from ten Maryland counties participated in the programs taught using cluster concept instruction. Eleven teachers and 11 separate cluster programs were included. Comparison was made of each cluster program with a control group of students from a traditional vocational education course.

The data for the first phase of the program were gathered by means of assessing the attitudes, opinions, and beliefs of responsible civic and industrial leaders. Mietus (1969) established criteria for occupational clusters in industrial education. According to Mietus (1969, p. 54) the occupational cluster:

1. Should be in the area of vocational industrial education.
2. Should include occupations that are related on the basis of either similar processes, materials, products, or human requirements.
3. Should be broad enough to include occupations with a wide variety of skills and knowledge.
4. Should involve occupations that require not more than a high school education and/or two years beyond high school.

5. Should provide for the opportunity for mobility on a geographical and occupational basis.

The conclusions based on the research findings were that the cluster concept programs have the potential of becoming vigorous, alternative forms of vocational education. The students behaviors were changed in the direction of the established objectives as a consequence of the program.

"Changes in cognitive abilities, broadened interests, flexibility of occupational choices within a cluster, and growth in performance tasks were observed. The inadequacies identified served to establish a list of recommendations for the further development and refinement of the cluster concept program."

Ridley (1967) conducted a study which used cluster analysis techniques in identifying competencies within a group of occupations in home economics in the secondary school. The attainment of the objectives was hoped to facilitate:

- (1) writing of job descriptions;
- (2) clustering of job descriptions;
- (3) structuring of course outlines for various curricula;
- (4) testing of experimental programs;
- (5) vocational counseling of students; and
- (6) development of a state guide for wage-earning occupations in home economics in the secondary schools.

The three year study was divided into three phases. Objectives of the first phase were as follows:

1. to identify occupations and job titles in Florida that required home economics knowledge and skills;
2. to estimate the present number of employees and the annual entry opportunities;
3. to determine job characteristics such as salary, minimum age, labor law and union restrictions, required education and experience, licensing and certification;
4. to cluster occupations and job titles for which common technical educational needs exist;
5. to identify competencies needed in each cluster occupations.

(Ridley, 1967, p. 4)

The purposes for phase two and three of the program dealt with implementation of the curriculum in home economics and were not included in the present review of literature.

The summary of the study by Ridley will be limited to a review of objectives 4 and 5 of phase I of the research.

The assumptions which led Ridley (1967, p. 131) to clustering of competencies within a group of occupations were that it would: (1) be economical of faculty time, (2) aid curriculum developers, (3) provide mobility within an occupational cluster, and (4) allow the student a more flexible occupational choice.

After completion of objectives one, two, and three, of the first phase of the program, Ridley identified occupations as follows: child care services, family food services, clothing and textiles, and supportive occupations. To

cluster the occupations, Ridley assigned identification numbers to each job title in accordance with the Dictionary of Occupational Titles (DOT). The three numbers used were last in a sequence of 6 used in the DOT and were categorized as data, people, and things. Ridley applied the clustering technique by two categories: (1) subject area and (2) competencies. Like numbers and numbers which were similar to each combination were assigned to a cluster. The clusters were arranged from jobs requiring less competency to jobs requiring greater skill. Frequencies and percentages were used to assess competencies for each job title.

The job titles were clustered by subject area category. Four area categories found to be large were: child care, food, housing and home furnishings, and clothing and textiles. Subclusters were found in each of the four identified large categories. Subclusters were also arranged from those requiring greater skill to those requiring less skill in the work performance. Twenty-seven percent of the subclusters were found to require a high degree of competency and 23 percent required a low level of competency.

The subclusters varied in number ranging from 8 in the categories of clothing and textiles, housing and furnishings, to 5 in the category of child care. The mean of 6 was found in subclusters of the food category. Subclusters in job titles ranged from 1 to 8. Each of the clusters and

subclusters had certain characteristic competencies which distinguished it from other clusters.

A study conducted by Beaver (1967) dealt with clustering techniques in home economics related occupations. The objectives of the study were to cluster occupations and job titles for which common technical, home economics educational needs existed, and to identify competencies needed in each cluster of occupations.

A two form questionnaire used by Beaver (1967) for data collection was adapted for home economics education by the occupational consultant for Home Economics Education, Florida State Department of Education. The objective of Form I was to identify job titles. Each employee was requested to list job titles requiring home economics knowledge and skills, the number of employees required for each job, and the level of employment for each. The following categories were used to designate the levels of employment: unskilled, service workers, semi-skilled, skilled workers, sales, clerical, managerial, technical, professional, and ownership. The objective of Form II was to identify characteristics and qualifications of each job title. The competencies were categorized as follows: level of awareness, performance, or technical understanding and whether it was desirable or essential at the level needed. Each employee was asked to categorize the competencies, using the

above categories as criteria for classification. The sample used by Beaver (1967) was comprised of present and potential employees, chosen by means of a systematic sampling from Florida counties which represented different geographic and population areas in the state. Three geographic areas used in the study were identified as north, central, and southern. The selection of the specific representative counties was based on the population per square mile.

A list of businesses and services that presently did or could in the future use home economics knowledge and skills was obtained through the use of the telephone directory, yellow pages from each locality. Job analysis was used to determine which business would be selected for study. Five hundred and eighty-six of the employing agencies, composed of 10 percent of the sample, were considered as the appropriate number to use.

Random sampling was used to select the businesses that were used in the first unit of the sample. Interviews were conducted with each of the selected businesses by vocational home economics teachers who were selected from volunteers at a state teacher convention. Both Forms I and II, were administered where applicable for each employer interviewed. Form I, which dealt with the identification of job titles, was completed for each business. Form II was completed for every job title identified by each employer in Form I. The

job title data were obtained from 817 questionnaires answered by 483 business employers. "The number of business interviews for the subject area categories were: 34 for child care, 113 for food, 175 for housing and home furnishings, and 161 for clothing and textiles. Frequency tables for personal characteristics and competencies for every job title were prepared. Competencies were listed for 69 job titles and percentages for those competencies deemed necessary as indicated by questionnaire responses were computed and analyzed. The sample size for specific job titles ranged from 1 to 68" (Beaver, 1967, p. 19).

Job titles were clustered by the four subject area categories of child care, food, housing and home furnishings, and clothing and textiles. Subclusters were formed within the four large clusters, the subclusters ranged from those requiring greater skill to those requiring less skill in the execution of work. The number of subclusters per cluster ranged from 8 in clothing and textiles and housing and furnishings to 5 in child care. The job titles forming subclusters ranged from 1 to 8.

Each of the clusters and subclusters had certain characteristic competencies which distinguished it from the others. Frequencies and percentages from the questionnaire responses were used to assemble competencies for each job title.

After the data analysis, Beaver made recommendations based on the results from the study. Some of the recommendations were:

1. This study should be used as a guide in setting up nondetailed curricula in which students who wish to enter a cluster of occupations would enroll for training in that cluster.
2. Secondary education students in wage-earning classes should be given a general education in cluster areas with training becoming more specific on the job, thus facilitating job mobility.
3. Vocational home economics education programs in wage-earning should be developed in consideration of job opportunities and competencies needed for specific occupations or occupational clusters.
4. Research should be conducted in the development of various combinations of clusters to ease the movement from a job in one subject area to a job in another.
5. Research should be conducted to identify competencies for the subclusters as well as for the clusters.

In a research project conducted by Crawford (1967) use was made of the competency pattern approach to curriculum construction in distributive teacher education. Some of the major objectives for the project were:

1. to determine the critical tasks in the job of the distributive education teacher-coordinator.
2. to determine the professional competencies needed to perform these tasks.
3. to determine the technical competencies needed by the teacher-coordinator to develop competencies needed by workers to enter and advance in a distributive occupation (Crawford, 1967, p. 1).

The first volume of the project dealt with the philosophy of distributive education, the critical tasks of the high school distributive education teacher-coordinator, the professional competencies needed to perform the critical tasks, and the technical competencies needed to develop identified competencies of selected distributive workers. The second objective of the Crawford study will be the only one reviewed in the present study. This was directed toward determining the professional competencies needed to perform critical tasks in the job of teacher-coordinator for distributive education.

Crawford (1969) identified 179 tasks considered to be "critical" by 8 state supervisors, 8 teacher educators, and 48 teacher-coordinators concerning the critical tasks in the job of the high school teacher-coordinator for distributive education. The data for this part of the project were gathered through the in-depth interview using a Critical Task Card-Sort in 11 centers. The results showed that "of the 187 critical tasks under consideration, 179 were deemed "critical" by the respondents.

The identified 179 critical tasks were clustered into five major job functions: teaching, guidance, coordination, public relations, and operation and administration. A selected search of literature and research was made to develop one or more competencies for each of the identified

critical tasks. Each of the identified competencies were written in terms of knowledge, understanding, skill, or attitude. Each competency designed as skill was supported by knowledge or understanding.

The final list of competencies was composed of 235 statements and this was submitted to a sample of 4 teacher educators. These statements were about all aspects of the professional competency of the high school teacher-coordinator in distributive education. "The statements of professional competencies, clustered under the job functions of teaching, guidance, coordination, public relations, and operation and administration, were submitted in the form of a questionnaire to the teacher educators selected to evaluate the competencies" (Crawford, 1967, p. 64). Two statements were deleted as a result of the suggestions from the experts. Competencies were categorized as follows: 95 competencies in teacher function, 28 in guidance, 29 in public relations and 44 in operation and administration functions. (Crawford, 1967, p. 65) stated that "the classification of the competency according to knowledge, understanding, skill and attitude provided an indication of the complexity of the competency."

After determining the competencies needed by the teacher-coordinator in distributive education, Crawford (1967, p. 81) synthesized the suggestions of the 4 participants, then

concluded by stating that:

Since the ultimate objective of this research study is to provide a basis for curriculum construction in distributive teacher education, the development of professional competencies needed by the high school distributive education teacher-coordinator was of particular concern. On the basis of the list of professional competencies, educational objectives for both general and specialized professional courses can be constructed to develop the needed competencies; learning experiences can be devised to accomplish the objectives; and evaluation schemes can be determined to measure the results. Thus, preparation programs - both pre-service and in-service can be designed to develop the professional competencies needed by distributive education personnel.

Literature cited in previous studies have shown that use of the cluster concept in constructing sound curricula was not limited to one area of concentration. Some of the studies cited have been from business, industry, institutions etc. All have indicated the applicability of the use of the cluster concept in an educational endeavor. The economic contribution of the use of the cluster concept can not be underestimated. This may be realized through shortening a trainee's time in school, giving the person a chance to take courses that are needed in her area. The teachers' time is also saved giving her time to work on the job, this includes saving money on the part of the institution and also allowing the teacher freedom to give individual attention to the students who need more learning or advanced learning. The pre-service and the in-service training may

be made stronger through the use of the competency cluster concept.

The use of cluster concept will allow the educators to train for job mobility and for advancement of learning for those who need it. A nation so advanced in technology and research cannot afford to loose manpower because proper techniques of teaching and learning had not been applied. Such a nation can not afford teaching obsolete skills or skills that are applicable in one geographical location.

America is a nation that serves the world communities with education and technological know how. As such its educational approach needs to be broad enough that a student from Korea will apply the same knowledge and skill learned in the classroom in a similar way as the student from America, South America or Africa. An American student trained in America may serve not only American communities, but may serve other communities of the world. Therefore, for his services to be effective, he needs to learn general knowledges and skills that can be applied in different situations and geographical areas. Finally, one must be reminded that the cluster concept should be used as a "tool" to aid in formulating educational objectives. As such, great care needs to be taken as to how this "tool" is used. A useful tool may be a dangerous one when improperly used. If im-

properly used, the cluster concept approach could endanger the good intentions of educational systems.

METHOD OF PROCEDURE

Purposes of the Study

The purposes of this study were: (1) to identify competencies needed by aides to perform daily tasks; (2) to determine clusters of competencies judged by home economists to be needed by the aides; and (3) to make recommendations for training aides.

Development of Checklist

A list of common tasks and clusters of tasks found to be performed frequently by the nutrition food aides in Iowa was secured from the study by Smith (1972). In it, Smith (1972) recommended that competencies needed to perform particular tasks be identified. In order to develop a list of competencies the following sources were used; curriculum guides, text books, and current periodicals. Each of the 121 tasks identified by Smith (1972) was listed along with all possible competencies which might be needed to perform that particular task. The competencies were stated as understandings.

The checklist was submitted to a panel of 8 experts from 6 areas of home economics: foods and nutrition, family environment, child development, clothing and textiles,

household equipment, and home economics education. The experts were asked to make suggestions on the provided spaces in terms of wording of the checklist, clarity, appropriateness, and completeness of the items. The checklist was revised and the advice given by the experts was incorporated. Some competencies were reworded, some deleted, and others were added to the checklist. To avoid the excessive length of the original checklist, and the overlapping of ideas, the revised checklist was limited to understandings needed to perform a particular task. Other minor changes were made by the writer's committee members which resulted in adding and deleting a few items. Minor changes in rewording some of the items were made also. At this time there were 709 competencies in the checklist.

Administration of Pre-Test

The revised checklist was further pre-tested for clarity, correctness, and completeness of the items. Three home economists who were working in the program as supervisors and trainers of the aides were selected to pre-test the checklist. Minor changes were made in the checklist in terms of clarity, correctness, and completeness of the items. However, two major recommendations were made by the committee: (1) that some competencies be eliminated from the

checklist due to the length; and (2) that the checklist be divided into two parts and that respondents be given at least one month after receiving half of the checklist (Part I) before Part II was sent. Both recommendations were incorporated in the construction and mailing of the final checklist.

From the original 709 items, 94 items were deleted from the checklist. These items included all the clothing and textiles cluster, and a few other items from other clusters which the aides seemed to perform less frequently (Smith, 1972). The final checklist was composed of 615 items. All items from tasks most frequently performed by aides were included in Part I of the checklist (Smith, 1972). Items from tasks regularly performed but not frequently performed were grouped in Part II of the checklist. Since Part II contained more items than Part I, one cluster, "health problems", was shifted to Part I to equalize the number of items. The final list included 320 competencies in Part I and 295 in Part II. In order to avoid preference in responding to certain clusters of competencies, all Part I competencies were randomly arranged within the Part I checklist and the same procedure was followed for the Part II checklist.

A nine point scale was constructed and used in the checklist. Provision was made on the checklist for the respondent to indicate the degree to which the competency was needed

by selecting a number from 1 to 9. The respondents were to write 1 if they were certain that the competency was not needed, 5 if they were uncertain whether the competency was needed, and other numbers between 1 and 5 or between 5 and 9 to indicate the degree to which the competency was needed.

The decision was made to limit the study to home economists, based upon previous studies which had indicated little difference in responses between professionals and non-professionals (Schill and Arnold, 1965, Shipley, 1967).

Sampling Plan

Advice concerning the sampling plan and statistical analysis of the data was sought from Dr. Alyce Fanslow, Associate Professor of Home Economics Education and from Dr. Leroy Wollins, Professor of Psychology and Statistics. Since there were only 15 counties in Iowa which used the nutrition food aides, it was suggested that the total population be used, and that statistically clustering the competencies was not feasible because of the small population. The list of Iowa counties using the EFNEP aides was obtained from the State Leader of Home Economics Extension at Iowa State University.

In the first week of September 1974, Part I of the final checklist was mailed to 15 home economists working with the

nutrition food aides in Iowa. Part II was mailed to the same respondents the first week in October, 1974. There was a month's interval between mailing time of Part I and Part II of the checklist. A cover letter from Mrs. Margaret Yoder, State Leader of Home Economics Extension, was included to indicate support of the study and to encourage cooperation. Another cover letter from Dr. Irene Beavers, the chairman of the researcher's committee was also included (see Appendix).

Analysis of Data

The final data collected from the total population of 15 home economists were sent to the Iowa State Computation Center. Two home economists did not respond to Part II of the checklist. The data were coded and the computer center transferred the responses to IBM cards. The frequency count of all responses was made. Mean scores were obtained for competencies needed using the 9 point scale. All competencies having a mean score of 4.00 and above were said to be needed by the aides. There were 375 competencies in this category. All competencies having a mean score of 3.99 and below were eliminated from further analysis which included 240 competencies. From the 375 competencies those having the 10 highest mean scores and the lowest mean scores

were identified.

Clustering Technique Used in the Present Study

A panel of judges was used to judge the content of the cluster. Fifteen experts from 6 different areas of home economics: management, household equipment, child development, family relationships, foods and nutrition, and home economics education, mostly involved in Extension work were used. The investigator examined the 375 competencies identified as needed by the aides and grouped them into 11 clusters by subject matter content: food production and preservation; discipline and guidance of children; teaching techniques; safety, sanitation, and health; food selection, preparation and service; housing, home furnishing, and household equipment; family relationships; management of human, material, and community resources; physical, emotional, and social developmental needs of children; nutrition and dietetics; and infant and child feeding. The 11 tentatively assigned and named clusters were presented to the 15 judges. The judges were asked to indicate whether or not they agreed with the items as tentatively assigned and named in the clusters according to subject matter content. If they felt that the competency did not fit into the originally assigned cluster, they were asked to reassign the competency into any of the 11 clusters. Some items were changed from

one cluster to another as a result of the judges' recommendations. The cluster of food selection, preparation, and service was further divided into the following clusters: food management, food safety and storage, food selection: planning and purchasing, and food preparation and service. The cluster on safety, sanitation and health was divided into a safety cluster, and a health cluster. Other clusters were not changed. The final decision by the judges was to arrange the competencies into 15 clusters. The items within each cluster were arranged in receeding numbers as they appeared in the checklist. One more cluster was formed out of items that did not cluster into any of the 15 clusters making a total of 16 clusters.

FINDINGS AND DISCUSSION

The findings are presented in the following sections:

(1) personal characteristics of the home economists; (2) ten highest competencies identified as needed; (3) seventeen lowest competencies; (4) clusters of competencies found to be needed by subject matter areas; and (5) recommendations for the study.

Personal Characteristics

Mean scores of personal characteristics of the extension home economists who responded to the checklist were examined. Personal characteristics were based on educational level, age, and length of employment in the Expanded Food and Nutrition Program.

Educational background

Of the 15 home economists in the study, none had less than college education and none had gone beyond the master's degree. Five or 33.3 percent had 4 years of college. Six or 40 percent had more than 4 years of college education and 4 or 26.7 percent had master's degrees.

Table 1. Educational background by frequency and percent

Highest grade completed	Frequency	Percent
Less than college degree	0	0
College (4 years)	5	33.3
College (beyond 4 years)	6	40.0
Master's degree	4	26.7
Beyond Master's degree	<u>0</u>	<u>0</u>
Total	15	100.0

Age

Three of the home economists or 20 percent were 25 years or younger. Eight or 53.3 percent were 26-45 years of age. Four or 26.7 percent were 46-65 years of age. None were beyond 65 years of age.

Table 2. Age of home economists by frequency and percent

Age	Frequency	Percent
25 or younger	3	20
26-45	8	53.3
46-65	4	26.7
Over 65	<u>0</u>	<u>0</u>
Total	15	100.0

Length of employment as a home economist

Further study of the data indicated that there were 2 or 13.3 percent of the home economists employed less than 6 months. Two or 13.3 percent were employed 2-3 years, and the highest percentage of homemakers were employed over 3 years. This category included 5 home economists or 33.4 percent.

Table 3. Length of employment by frequency and percent

Time	Frequency	Percent
Less than 6 months	2	13.3
6 months to 1 year	2	13.3
1 to 2 years	4	26.7
2 to 3 years	2	13.3
Over 3 years	<u>5</u>	<u>33.4</u>
Total	15	100.0

Clusters of Competencies

Identified needed competencies were examined by the researcher and the judges to determine clusters of competencies in terms of subject matter content. Sixteen clusters were formed. The competencies were clustered and were presented on the following pages.

Cluster A, food production and preservation

Examination of the competencies in this cluster revealed that there were 9 competencies. They included techniques of raising home vegetable gardens and ways of harvesting and storing vegetables once raised.

- 90. Advantages and disadvantages of growing a garden
- 92. Crops which can grow in certain areas
- 94. Procedure for growing a garden
- 253. Reasons for canning and freezing
- 254. Skills needed by the homemaker in following the directions in canning foods
- 255. Advantages of using recommended methods of canning and freezing
- 256. Procedure for canning and freezing
- 275. Homemaker's attitudes, interests and reading skills concerning canning and freezing
- 276. Ability of the homemaker to use the material related to canning and freezing

Cluster B, food management

Examination of the food management cluster showed that there were 7 competencies in this cluster related to wise use of time, money, and energy in relation to food preparation, serving and preservation of cooked food.

- 5. Wise use of time and energy in meal preparation
- 13. Procedure for determining foods that will be needed for meals during next four days or week
- 14. Procedure for determining foods that are available in the home
- 131. Ways of including left-overs to stretch food dollar
- 136. Economic contribution of leftover foods
- 195. Advantages of selecting nutritious snacks that are inexpensive
- 304. Homemaker's money allotted for daily meals, snacks and holiday meals

Cluster C, food selection: planning and purchasing

Cluster C included all the competencies which required careful evaluation of needs of the family, family resources on hand before deciding what to buy, and knowledge of evaluating the merchandise in the market in terms of prices and satisfactions derived from purchased products. The 28 competencies required that an individual evaluate the family values and customs that food serves in a particular family setting as well as skills needed to prepare what is purchased. Evaluation of other resources available to prepare and serve the food was considered to be an important competency.

16. Preparation of a market order as aid to providing adequate nutrition
17. The market order as a means of saving time and money when shopping
28. Family meal pattern for daily meals and snacks which will provide for nutritional needs of family members
29. Meal planning as a means of providing a wider variety of foods for hurriedly prepared meals
30. Advantage of considering individual family members nutritional needs when planning
31. Advantages of planning menus that are nutritious and within the family food budget
32. Advantages of considering the families' cultural patterns related to food when planning for families food
35. Planning as important to achieving adequate nutrition
36. Planning as a means of saving time, effort, and money in shopping and cooking meals
95. Family customs which influence meal planning, buying, and preparing
96. Factors to consider when buying food in terms of supplying nutrient needs
97. Ways to help homemaker improve food purchasing practices

- 98. What to look for when buying perishable foods
- 99. Factors to consider when purchasing convenience foods
- 101. Prices of commodity that will vary in supermarket, chain, independent, and specialty stores
- 102. Special services rendered by different stores may influence food prices
- 125. Value of making a shopping list
- 126. Factors that influence food selection
- 127. Advantages of comparative buying in different markets (or grocery stores)
- 128. Ways of judging good food buys
- 129. Comparative buying of different forms of food
- 130. Criteria to use in evaluating specials on foods
- 142. Foods included in each of the four food groups
- 143. Advantages of considering family food preferences in planning meals
- 145. Ways of using the basic four food groups in planning the menus for a day
- 158. Fruits and vegetables locally available and their prices
- 159. Advantages of developing skill in judging the quality of fresh fruits and vegetables by their appearance
- 194. Advantages of planning between meal snacks as part of total day's intake
- 305. Usual food price changes occurring during different holiday seasons

Cluster D, food preparation and service

There were 28 competencies in this cluster that required skill in actual food preparation, including proper ways to prepare meals to save time and energy as well as to save nutrients in food. Competencies which deal with creative cooking to produce appetizing as well as economical meals were included. Additional competencies which dealt with proper choice of resources available to the homemaker included cooking and serving equipment as well as proper recipes and recipe sources. Knowledge about human development

and needs were said to be essential and how to incorporate these needs in nutrition and in preparing and serving meals.

1. Principles of food preparation
2. Procedures for preparing and/or cooking a variety of foods to conserve nutritive value
3. Procedures for sanitary food handling in meal preparation
6. Characteristics of well-prepared and/or cooked foods
7. Gradual changes in using new methods of food preparation
8. How to use and care for equipment used in food and meal preparation
34. Skill and time of person who will prepare meals
74. Reasons for selecting recipes that will fit family food habits and customs
75. Need for selecting recipes that are within family food resources
76. Acceptable ways of introducing new foods to family members
95. Family customs which influence meal planning, buying, and preparing
135. That variety of food makes meals more interesting with different flavors, colors, shapes, and textures
139. Ways of preparing appetizing leftover food
160. Ways of preparing fruits and vegetables
196. Advantages of preparing appropriate snack foods that are readily available
242. How and when food habits are formed
243. Ways of using old recipes to incorporate new foods in the diets
245. Advantages of patience in giving family time to change their old patterns of eating
279. Need for using well-written, tested recipes for standard results
280. Essential information a recipe should contain
281. Advantages of using tested recipes
291. Advantages of preparing homemade mixes
306. Cooking equipment homemaker has available to use in meal preparation
379. Procedures for following recipe directions
380. Meaning of common recipe terms

- 381. Common food weights and measurements and abbreviations
- 382. Correct methods of measuring different types of ingredients
- 383. Practical recipes for program homemakers

Cluster E, food safety and storage

Included in Cluster E were 13 competencies which involved knowledge about nature of food and what causes food spoilage, consequences of spoiled foods, ways of detecting spoiled food, principles of handling food in sanitary ways and proper ways of storing foods.

- 120. Procedure for safe ways of storing foods which will also result in acceptable color, texture, and flavor
- 121. Ways of storing food to preserve nutrients
- 122. Food storage as being important for conservation of nutritive value
- 123. Length of time various foods may be safely stored
- 124. Proper places to store various kinds of food
- 140. Kind of leftover foods that can be safely stored
- 141. Procedures for storing leftover foods safely
- 197. Foods that can be easily prepared and safely stored for snacking
- 293. Equipment and space available for storing homemade mixes
- 307. Amount of storage space available for daily and holiday leftovers
- 473. Proper things to store in the refrigerator
- 568. Advantages of sanitation of packed food
- 569. Dangers of packing food that will not keep in warm weather

Cluster F, infant and child feeding

This cluster demands that an individual master the changes that take place as a child grows that make him perceive food in different ways as well as social habits which

influence the child's food intake. Competencies related to evaluation of family environment as it reflects on child feeding were included also. There were 14 competencies in this cluster.

- 224. Need for sanitation in food preparation and feeding infants and children
- 225. Advantages of accuracy in preparing formula
- 226. Advantages of using prescribed formula for infant feeding
- 227. Need for appropriate storage of prepared formula
- 228. Nutritional needs of infant and child
- 229. Eating behavior patterns of infants and children
- 230. Relation of good nutrition to growth and development of child
- 231. The importance mother places on infant and child feeding
- 232. Advantages of understanding that eating habits are formed during childhood
- 233. Advantages of helping the mothers to help children develop desirable food habits
- 234. Development of children's motor skills and its effect on feeding patterns
- 235. Physical characteristics of a well-nourished child
- 236. Social behavior of children in the feeding situation
- 244. The influence of environment and family members attitudes toward food on children's likes and dislikes

Cluster G, nutrition and dietetics

Cluster G, which had 22 competencies, included all the competencies needed for evaluating the differences between fad diets and nutritional diets. Knowledge about special diets for individual needs, resources available in counseling individuals with special diet problems, and competencies related to nutrients found in different foods and their

contribution to the body.

9. Advantages of having substantial subject matter knowledge or help
10. Types of nutrition problems commonly found in the groups or individuals
12. Community and neighborhood resources on hand to work with nutrition problems
77. Contribution of new foods to the health of family members in terms of nutrition
103. Where to find special foods needs of family members
132. That many nutrients are necessary to meet the different needs of the body
133. That nutritive values are different for each food
134. That nutrients for body needs are easier to obtain when a vareity of foods are eaten
137. Ways that leftover foods might be used to meet nutritional needs
138. Nutritional contribution of leftovers to future meals or snacks
154. Reasons why a patient needs to use special diet
155. Needs for a special diet for the patient
157. Desirability of adjusting family menu for meals for patient using as many items as possible to avoid special preparation
210. Problems related to obesity
214. Need for homemakers to seek expert advice on menu planning for weight reduction
215. Effects of fad diets on the health of users
216. Limitations of food Aide to advise homemakers on how to reduce weight
217. The necessity for the Aide to keep her own weight within the ideal range
218. Need for explaining basic nutrition concepts
222. Advantages of explaining nutrition concepts that are to the level of the homemaker
223. Advantages of introducing new ideas about nutrition, one at a time
567. That packed lunch needs to be nutritious

Cluster H, safety

Cluster H included 28 competencies which dealt with knowledge concerned with physical as well as emotional protection of family members against unsafe conditions in the family environment. Knowledge needed to detect and to correct these unsafe conditions was included.

- 269. Importance of developing plan for care of children ahead of time when emergencies arise
- 270. Reasons for planning for emergencies
- 271. Emotional needs of the family members during emergency crises
- 272. Physical needs of family member during emergency crisis
- 273. Advantages of developing emergency plan for care of child before an emergency
- 274. Places to go for child care during family emergencies
- 295. Emotional need of children when the family is under emergency crisis
- 296. Ways to help children gain confidence in fearful situations
- 297. Health and safety measures to use with children during emergency conditions
- 298. Ways of meeting personal needs of children in emergencies
- 389. Safety hazards that result from the misuse of electric equipment
- 410. Responsibilities of the driver to the safety of of the passengers
- 419. Safety measures to take with wet and highly polished kitchen floors
- 420. Proper handling and suitable uses of cleaning materials
- 421. Proper storage of cleaning materials
- 470. Safety measures to take when connecting or disconnecting the refrigerator to or from the wall fixture
- 491. Advantages of following directions on how to use the insecticide
- 492. Dangers of careless use of insecticide
- 519. Dangers of operating equipment that need repairs especially electric equipment

- 548. Importance of sanitation and safety as related to child care
- 549. Causes of home accidents and unsanitary conditions in young children
- 550. Safe and sanitary working procedures in the home
- 551. Advantages of early correction of unsanitary and hazardous conditions in the home
- 552. Characteristics of sanitary and safe home environment for young children
- 553. Types of home accidents and unsanitary conditions to young children
- 554. Advantages of keeping all medicine and chemicals out of reach of children
- 555. Dangers of plastic bags and coverings to children
- 556. Ways of detecting and eliminating common household hazards to children

Cluster I, health

The 14 competencies included in Cluster I involved those competencies the individual needs to take care and maintain a healthy body. Knowledge of resources available for the individual was included.

- 299. Situations in which it is necessary to call for professional help during emergency situation
- 300. Procedure for contacting professional help during emergency crisis
- 301. Conditions that might upset a child during emergency crisis
- 308. Advantages of immunizations for children
- 309. Procedures for obtaining immunization for children
- 311. Immunizations available against diseases
- 360. Importance of regular medical and dental checkups for each member of the family
- 361. Symptoms of communicable diseases
- 455. Unsanitary conditions and diseases brought about by insects and rodents
- 464. The importance of keeping some information regarding drinking and mental health confidential
- 480. Necessity for person to follow physician's orders
- 482. Person's ability to remember and carry out physician's orders

- 483. Need for tact and firmness in reminding and assisting person to carry out physician's orders
- 500. Reasons for seeking professional help for children suspected of having emotional, physical and mental problems
- 501. Importance of aide to discuss the situation with Extension Home Economist so decisions relating to asking for professional assistance related to emotional, physical and mental problems can be made

Cluster J, teaching techniques

Cluster J included 40 competencies needed to plan and evaluate good learning activities. The what, why, how, who, and where of planning and executing educational programs were included in Cluster J.

- 23. Techniques of presenting material to youth and children
- 66. Reason for a lesson plan
- 67. Needs and interests of the adults
- 68. Ways of motivating adults
- 69. Appropriate ways of presenting information to different audiences
- 70. Reasons for using a variety of teaching methods
- 78. Advantages of making illustrative materials for subject matter to be taught
- 107. Ways of motivating homemakers and families to help themselves
- 108. Advantages of helping the families to do their own duties and solve their own problems
- 109. Individual differences between the families and the family members in relation to ways of motivating
- 110. Advantages of working with the homemakers and the families in the beginning so that they will not fail
- 111. That praising small accomplishments can help motivate the homemakers to do more
- 112. Ways of finding possible talents and finding ways of developing them
- 113. Advantages of involving the family in demonstration of tasks they know how to do

- 114. Advantages of enthusiastic attitude by the aide even when the progress is slow
- 186. Knowledge and skill needed by the aide to conduct the lessons
- 187. Needs and interests of the homemakers
- 188. Resources available to conduct a lesson in meal management and food preparation
- 322. Desirable ways to seek advice from and offer information to Extension Home Economist
- 323. Advantages of feeling at ease in sharing information with each other freely
- 325. Place and time to relate confidential matters
- 326. Need for confidentiality about program families
- 327. Length of conference, and importance of arriving at the conference place on time
- 341. Advantages of giving family members a chance to "show and tell" things they are successful in doing
- 371. Advantages of pursuing interests and needs of family groups once determined
- 396. The target audience for the Expanded Nutrition Program
- 397. The needs and interests of the target audience
- 444. Advantages of writing report in legible and neat form
- 448. Advantages of being well-prepared on the topic before conducting a meeting
- 449. Advantages of conducting the meeting at the understanding level of the audience
- 451. Advantages of discussing relevant issues
- 452. The value of shared learning and informal discussion
- 453. Advantages of having self-confidence and a pleasing voice
- 503. Advantages of regarding reports as confidential documents
- 504. Advantages of keeping reports neat
- 562. Advantages of including the husbands in the program
- 563. Ways of building rapport with the husbands
- 599. Importance of selecting acceptable methods of giving information about the program
- 601. Importance of giving relevant information and in an interesting way
- 611. Needs and interests of families to attend other Extension Service Programs

Cluster K, housing, household cleanliness, home furnishing and household equipment

The 14 competencies included in Cluster K dealt with problems of maintaining good housing conditions, care of household equipment, and ways of cleaning a house and its equipment.

- 385. Reasons for using equipment properly
- 388. Importance of using manufacture's instruction book on how to use the equipment
- 416. Reasons for cleaning kitchen and cupboards
- 417. Procedure for using cleaning agents
- 418. Sequence of steps in cleaning job to obtain good results with economical expenditure of time and energy and materials
- 467. Characteristics of refrigerators in need of cleaning and defrosting
- 469. Procedure for cleaning and/or defrosting the refrigerator
- 571. Advantages of keeping a home clean and orderly
- 572. Skills needed to keep house clean and orderly
- 573. Ways of keeping house clean and orderly
- 588. Advantages of considering family income, values, and needs when furnishing a home
- 594. Advantages of improving the appearance of the house
- 595. Skills of the homemaker to improve the appearance of the home
- 605. Advantages of using good housekeeping methods

Cluster L, management of human, material, and community resources

Managerial problems of human, material and community resources were contained in Cluster L. There were 61 competencies in this cluster.

- 320. Play equipment that can be recycled from material brought into the house
- 332. The community where the family lives
- 338. Need to set reasonable standard of performance
- 353. Homemaker's decision regarding birth control and her acceptance of the decision
- 354. Advantages of planning family size and spacing of children
- 366. Advantages of participating in other educational opportunities
- 387. Reasons for considering the usefulness of equipment before purchasing
- 411. How to use a community road map
- 412. Legal risks involved in case of accidents
- 413. Advantages of insuring car for transportation
- 414. How to evaluate necessity for providing transportation to avoid abuse
- 425. Sources of information on how to solve family problems
- 475. Ways of helping the family set short-term or long-term goals
- 484. Advantages and disadvantages of various family values and goals
- 485. Advantages of finding out the families' resources and ways of using them more effectively
- 486. Advantages of finding the families' attitude about their living conditions
- 537. Advantages and disadvantages of planning ahead
- 538. How short-term objectives lead to long-range goals
- 539. Ability to be flexible and have alternate plans when original plans fall through
- 543. Advantages of decision-making process as a means of helping individuals to find satisfaction in every-day life
- 558. Advantages and disadvantages of using the telephone to communicate
- 559. Advantages of using the telephone to save communication time
- 560. When it is important to use long-distance telephone calls
- 561. Expenses involved in using long-distance telephone calls
- 579. Advantages and disadvantages of sorting and throwing away of unwanted items

- 580. Understanding sentimental feelings toward some of the things that people may need to sort and throw away.
- 33. Amount of money that can be spent for food
- 86. Procedures for securing food stamps
- 87. Where and how to use the food stamps
- 88. Places to secure food stamps
- 91. Economic value of growing own food
- 100. Advantages of keeping record on money spent for food
- 104. Advantages to children of participation in free lunch program
- 115. Procedures for applying for a job of an unemployed person
- 117. Ways of encouraging the unemployed to obtain and keep a job
- 180. Ability of the homemaker to make inexpensive toys
- 181. Ability of the homemaker to follow directions in making inexpensive toys
- 182. Reasons for making inexpensive toys
- 184. Materials available for making inexpensive toys
- 190. Necessity of talking with the family before securing funds for food purchases when the family has no money
- 205. Various community agencies available to serve the families
- 208. Difficulties encountered by families when receiving help from some agencies
- 209. How the agency personnel works with the families in the community helping agencies
- 238. Ways of changing negative attitudes of the homemaker toward food stamps and supplemental foods
- 239. Advantages of using food stamps and supplemental foods as a means of stretching food dollar
- 240. Purposes of food stamp and supplemental food programs
- 262. Ways of helping families see a need for counseling about family resources
- 264. Types of resource problems faced by the families
- 265. Families' human and material resources on hand
- 266. Ways of using resources to maximize satisfactions
- 267. Multi-purpose use of resources available
- 268. When to counsel with the individuals or in small groups or when to refer them to experts
- 283. Criteria for deciding a good buy on an item
- 284. Where to buy low cost items

- 285. Reasons for shopping where the items cost less
- 286. Attitude of the homemaker to go to the place of the lowest cost
- 287. Advantages and disadvantages of comparative buying
- 288. Advantages of making use of advertised low cost items in the newspapers
- 290. Feasibility of homemaker to go to the referred place of lowest cost

Cluster M, family relationships

Family relationship is one of the most complicated aspects of family living. There were 36 competencies included in this cluster which involved active communication and listening, ways of building rapport with one another in the family and ways of respecting the individual and his needs. Recognition of different family problems and ways of solving problems were among the competencies identified in Cluster M.

- 39. Advantages of talks with children as family goes about daily routine duties
- 148. Ways of giving emotional support to the family member on a visit to social service
- 247. Advantages of assisting parents to see their role in interacting with children
- 342. Ways of providing encouragement to the family members
- 343. Advantages of giving encouragement at the time it is needed
- 344. Advantages of helping the family members to praise each other's efforts
- 346. Advantages of finding the strong points about the homemaker and encouraging development of these skills
- 347. Advantages of praising small achievements of family members
- 348. Areas of living which bring discouragement to families
- 349. Verbal and nonverbal communication used in positive reinforcement
- 350. Advantages of helping the families see ways others have overcome their problems

- 351. Advantages of making decisions with the spouse about birth control practices
- 423. Types of family problems experienced by low-income families
- 424. Sources of family problems of the low-income families
- 427. Advantages of being able to talk over family problems
- 428. Advantages of letting the family solve their own problems
- 429. Advantages of expressing feelings without fear of losing face
- 430. Difference between problems and symptoms
- 464. The importance of keeping some information confidential
- 528. Advantages of establishing rapport with the family
- 529. Kind of obstacles which prevent people from understanding each other
- 530. What to say and what not to say to the family
- 531. Advantages of avoiding the approval or disapproval of what the family has to say about their problems in both verbal and nonverbal means
- 532. Advantages of the family to express ideas and opinions
- 533. Advantages of accepting the other person's ideas
- 534. Ways of giving a family support with their problems
- 540. Advantages of identifying individual needs
- 541. Advantages of identifying family needs
- 546. Advantages of examining physical, social, emotional, and mental growth of mature individuals
- 547. Factors influencing personal satisfaction in everyday living
- 582. Factors influencing ways individuals behave within the family
- 584. Reasons for individual differences with family members
- 586. Dynamics operating within families, i.e. trust, identity, honesty
- 587. Individual needs of family members
- 606. Advantages of sharing duties among family members
- 607. Ways of sharing duties among family members

Cluster N, physical, emotional, and social developmental needs of children

Competencies needed to help a person meet developmental needs of children require that an individual master changes that take place at certain stages of the child's growth. Physical development is accompanied many times by emotional as well as social changes in children. Cluster N included 35 competencies which requires that a person have a knowledge about principles of physical, social and emotional development of children as well as ways of meeting such needs.

25. Influence of peer on behavior of the youth and children
26. Importance of adult model to youth and children
38. Role of play in growth and development of children
40. Advantages of involving children in daily routine activities
41. Individual differences in physical-motor, emotional, social, and mental development of children
42. Children's activity as essential for and a necessary part of growth
43. Changes in play patterns as children grow
44. Children's use of imitation and imagination in the learning processes
45. Development and duration of child's interests in talk and play
46. Language development patterns of children
48. Kinds of stories of interest to children
49. Advantages of listening to ideas expressed by children
50. Advantages of using stories, poetry, songs, and fingerplays to increase vocabulary
51. Basic emotional and social needs of children
52. Factors influential in personality development
53. Reasons for behavior, why children behave the way they do at different times
165. Advantages of expressing feelings between children and family members

- 166. Ways of expressing feelings in children
- 167. Importance of art as a medium of expressing ideas and feelings of children
- 168. Importance of music as a medium of expressing ideas and feelings
- 169. Importance of play activities as a medium of expressing ideas and feelings
- 170. Advantages of food as a medium of expressing ideas and feelings of children
- 171. Reasons for disagreements between children
- 172. Advantages of accepting or understanding children's feelings
- 173. What is normal disagreement between children
- 174. Advantages of letting children work out their own solutions for disagreements
- 175. Advantages of adjusting home environment to meet changing needs and interests of children
- 176. Behavioral characteristics at different stages of development
- 177. Physical, social, emotional, and mental changes that take place as children grow
- 179. Influence of peers in the personality development of children
- 248. Reason for child's behavior
- 249. The interaction of the emotional, social, physical, and mental development of children
- 318. Methods of caring for children's play materials and equipment
- 319. Educational contribution of various simple play toys and puzzles
- 583. Advantages of accepting children for their age and stage of development

Cluster O, discipline and guidance of children

Cluster O included 17 competencies needed to guide children into developing acceptable character and to guide them into achieving self discipline. Competencies concerned with environmental problems related to social, emotional, and physical development of children and appropriate ways of controlling these environmental problems were included.

- 19. Ways of motivating youth and children
- 20. Interests of youth and children
- 21. Developmental tasks and needs of youth and children
- 22. Advantages of talking and listening to the ideas of youth and children
- 24. Advantages of remembering that one is working with, not for, youth and children
- 54. Means of directing behavior which is appropriate to age and maturity of the child when disciplining children
- 55. Methods of reinforcing acceptable behaviors of children
- 56. Role of guidance in handling children's frustrations and tension outlets
- 57. Ways of handling sibling rivalry
- 58. Importance of adult models in determining behavior, values, and attitudes of children
- 59. Advantages of the development of self-control in children
- 174. Advantages of letting children work out their own solutions for disagreements
- 333. Advantages of helping children feel useful, helpful, wanted and needed
- 334. Ways of helping children to feel helpful, useful, wanted, and needed
- 335. Need for children to experience success in what they do
- 336. Relationship between children's emotions and work to be done
- 355. Importance or value of children to different cultures

Cluster P, miscellaneous

The experts did not include 7 items in Cluster P into any of the other identified clusters. Items in this cluster were competencies needed for applying for jobs or public funds, skills in driving a car, and legal responsibilities involved in some of the duties. Family attitudes in receiving public funds were included also in this cluster.

- 63. Responsibility of the homemaker to give accurate information in the application form
- 119. Ways of helping the family identify potential unemployed people who need jobs
- 192. Families willingness to accept the secured funds
- 409. How to drive a car
- 149. Reactions of social service personnel to serving the family members
- 302. Legal responsibilities involved in taking care of the child
- 313. Advantages of neatness when filling application blanks

Competencies Identified as Most Needed Before Entry

Ten competencies were identified as most needed by the aides. The competencies had mean scores of 6.60 and above. Examination of the competencies revealed that the following clusters were represented: 2 competencies were from the teaching technique cluster; 2 health; 1 family relations; 1 nutrition and dietetics; 1 physical, emotional and social developmental needs of children; 1 food preparation and service and 1 in the miscellaneous cluster.

- 22. Importance of talking and listening to the ideas of youth and children
- 49. Importance of listening to ideas expressed by children
- 111. That praising small accomplishments can help motivate the homemakers to do more
- 114. Importance of enthusiastic attitude by the aide even when the progress is slow
- 190. Necessity of talking with the family before securing funds
- 217. The necessity for the Aide to keep her own weight within the ideal range
- 429. Importance of expressing feelings without fear of losing face

- 245. Importance of patience in giving family time to change their old patterns of eating
- 464. The importance of keeping some information confidential
- 480. Necessity for person to follow physician's orders

Competencies Identified as Least Needed Before Entry

Examination of the competencies revealed that 17 competencies were identified as least needed. They had a mean score of 4.00 and represented most of the 16 identified clusters.

- 29. Meal planning as a means of providing a wider variety of foods for hurriedly prepared meals
- 63. Responsibility of the homemaker to give accurate information in the application form
- 99. Factors to consider when purchasing convenience foods
- 100. Advantages of keeping record on money spent for food
- 102. Special services rendered by different stores may influence food prices
- 103. Where to find special food needs of family members
- 142. Foods included in each of the four food groups
- 145. Ways of using the basic four food groups in planning the menus for a day
- 160. Ways of preparing fruits and vegetables
- 199. Resources available for meal preparation
- 318. Methods of caring for children's play materials and equipment
- 421. Proper storage of cleaning materials
- 455. Unsanitary conditions and diseases brought about by insects and rodents
- 492. Dangers of careless use of insecticide
- 538. How short-term objectives lead to long-range goals
- 543. Advantages of decision-making process as a means of helping individuals to find satisfaction in every-day life
- 567. That packed lunch needs to be nutritious

SUMMARY AND RECOMMENDATIONS

The purposes of this study were to: (1) identify competencies needed by aides to perform tasks; (2) determine clusters of competencies judged by the home economists to be needed by the aides; and (3) make recommendations for training aides.

To obtain the information needed, a competency checklist was developed, checked by six experts and pre-tested. Based on the results from previous studies, the present study was limited to home economists. A final two part checklist was developed and mailed to 15 home economists working with nutrition food aides in the State of Iowa. Part I was composed of 320 competencies mostly for tasks most frequently performed by aides (Smith, 1972). Part II consisted of 295 competencies for tasks less frequently performed by aides (Smith, 1972). In addition, a general information sheet obtained data about the age, length of employment, and educational background of the home economists.

Part I and Part II of the checklists were mailed one month apart, September, 1974 and October, 1974, respectively. The respondents were asked to respond to the checklist using the following information on a 9 point scale: indicate

the degree to which the competency was needed by selecting a number from 1 to 9. The respondents were to write 1 if they were certain that the competency was not needed, 5 if they were uncertain, and other numbers between 5 and 9 to indicate the degree to which the competency was needed.

Data from 15 home economists were sent to the Iowa State Computer Center for analysis. Mean scores were computed. Competencies having mean scores of 3.99 and below were eliminated from further analysis. There were 240 competencies having mean scores below 3.99. Competencies with mean scores of 4.00 and above, or 375 competencies, were used for clustering.

Clustering of competencies statistically was not feasible because of the small population. Therefore, a panel of 15 judges was used to aid in clustering the 375 competencies identified as needed. The researcher tentatively assigned and named 11 clusters of competencies according to subject matter content; food production and preservation; discipline and guidance of children; teaching techniques; safety, sanitation and health; food selection, preparation and service; housing, home furnishing, and household equipment; family relationships; management of human, material, and community resources; physical, emotional, and social developmental needs of children; nutrition

and dietetics; and infant and child feeding.

The judges were asked to indicate whether or not they agreed with the 11 clusters of competencies as tentatively assigned and named. The judges made recommendations that some items be changed from one cluster to another, and that some clusters be further subclustered. The cluster on food selection, preparation and service was further subdivided into: food management, food safety and storage; food selection: planning and purchasing; and food preparation clusters. The cluster on safety, sanitation and health was subdivided into a safety cluster and a health cluster. The result was 15 clusters of competencies. One additional cluster of items that did not content-wise fit into any of the 15 clusters was formed making a total of 16 clusters.

The majority of the home economists were between the ages of 26 to 45 years, had been employed over three years, and had more than 4 years of college education. There were 10 competencies judged as most needed. These competencies had means score of 6.60 and above. Examination of the data indicated that there were 17 competencies judged as least needed which had a mean score of 4.00.

Recommendations Based on the Present Study

1. That specialists and supervisors of aides develop a training program based on the identified needed competencies in the study.

2. That curriculum materials related to each cluster of competencies identified as needed be developed to be used by the home economists when training aides.

3. That a study be conducted to identify knowledge and comprehension of the aides on each of the identified competencies.

4. That a pre-test of aides knowledge and comprehension of the competencies be the bases for offering training.

5. That an interdisciplinary approach of teaching be used in the training of the aides giving proportional priority to other areas of home economics identified in the study besides foods and nutrition.

6. That competencies related to other areas, such as, human relationship skills and mental processes be identified since the present study was based on competencies for tasks that the worker performs on the job.

7. Study life styles of specific families as a basis for curriculum development.

LIST OF IOWA STATE UNIVERSITY EXPERTS AND JUDGES

Margaret Yoder, State Leader, Home Economics Programs Cooperative Extension Service

Carol Anderson, Assistant State Leader, Cooperative Extension Service

Maria de Colon, Assistant State Leader, Cooperative Extension Service

Nancy Meredith, Extension Specialist in Family Environment, Cooperative Extension Service

Mary Pickett, Professor, Family Environment, College of Home Economics

Virginia Bishop, Extension Specialist, Housing and Household Equipment, Cooperative Extension Service

Karen Hull, Extension Specialist, Home Management, Cooperative Extension Service

Melba Christy, Extension Specialist, Human Development and Family Life, Cooperative Extension Service

Vivika Morain, Extension Specialist, Human Development and Family Life, Cooperative Extension Service

Jacquelyn Yep, Extension Specialist, Textiles and Clothing, Cooperative Extension Service

Pauline Mairs, Extension Nutritionist, Cooperative Extension Service

Phyllis Olson, Extension Nutritionist, Cooperative Extension Service

Katherine Munsen, Extension Nutritionist, Cooperative Extension Service

Eloise Rippie, Associate Professor, Family Environment, College of Home Economics

Blanche Miller, Assistant Professor, Home Economics Education, College of Home Economics

Doris Foell, Instructor, Family Environment, College of Home
Economics

Mary Yearns, Extension Specialist, Home Management, Coopera-
tive Extension Service

Ruth Smith, Nutrition Consultant

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Appreciation is extended to Mrs. Margaret Yoder, State Leader of Home Economics and Assistant Dean of Home Economics for her cooperation with the study. To the experts and judges who participated in the study, and to the extension home economists in the State of Iowa who took time to respond to the checklist. A word of thanks is due to Mr. Bud Meador, Statistical Consultant, and Dr. Alyce Fanslow and Dr. Leroy Wollins for their advice on the statistical analysis of the data.

A special word of gratitude goes to the author's family, her husband John, and her children Jean, Mutuma, Kimathi, and Peter whose cooperation, patience, encouragement, and understanding made the completion of this study possible.

APPENDIX

Iowa State University of Science and Technology

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Cooperative Extension Service

Ames, Iowa 50010

Administrative Offices
128 MacKay Hall
Telephone 515-294-2736

Date: August 15, 1974

To: Extension Home Economists - ENP

From: Margaret K. Yoder

The enclosed questionnaire is a part of the research of Leah Marangu, doctoral student in Home Economics Education. Her study of the Expanded Nutrition Program will be helpful to Extension Service and we would appreciate your help.

If you have any questions, please get in touch with Dr. Irene Beavers 515-294-3991.

Thank you for your cooperation.

Margaret K. Yoder

Department of
Home Economics Education
166 MacKay Hall
Ames, Iowa 50010

IOWA STATE
UNIVERSITY

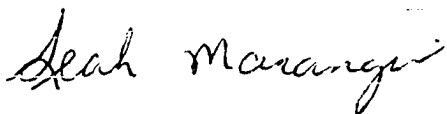
Telephone 515-294-6444

Mrs. Leah Marangu, a graduate student in Home Economics Education at Iowa State University, is conducting a study in the area of adult education. The title of her study is "Competencies needed by the Expanded Food and Nutrition Family Food Aides in Iowa: A Cluster Analysis Study." The results of the study will provide information for development of the curriculum to be used in training of the aides. The Extension Home Economics Specialists at Iowa State University have expressed a need for such information and the administration has approved the study.

The questionnaire will be in two parts. It is hoped that you can complete the first part by September 30th. You will receive the second part of the questionnaire on October 1st and it is hoped that you can return it by October 30th.

We sincerely hope you will assist in this study. If **you** have any questions, please feel free to call collect to the following number: 515-294-3991. Thank you for your cooperation and assistance.

Sincerely,



Leah Marangu
Graduate Student



Irene Beavers
Professor

kd

1 Enclosure

INFORMATION FORM

County _____

We need this information about you. Please answer each question by placing an (x) on the line that gives the information that is correct for you.

I. Highest grade completed:

- ☐ 1. Less than college degree
- ☐ 2. College (4 years)
- ☐ 3. College (beyond 4 years)
- ☐ 4. Master's degree
- ☐ 5. Beyond Master's degree

II. Age:

- ☐ 1. 25 or younger
- ☐ 2. 26-45
- ☐ 3. 46-65
- ☐ 4. over 65

III. How long have you worked in the Expanded Nutrition Program:

- ☐ 1. less than 6 months
- ☐ 2. 6 months to 1 year
- ☐ 3. 1 to 2 years
- ☐ 4. 2 to 3 years
- ☐ 5. over 3 years

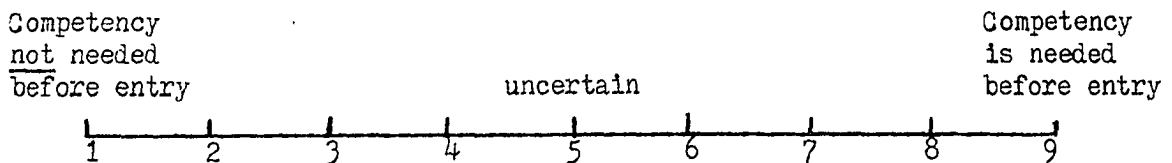
Competencies needed by the Expanded Food and Nutrition Family
Food Aides in Iowa: A Cluster Analysis Study.

The Home Economics Education Department at Iowa State University is presently conducting research to determine the understandings needed by Expanded Food and Nutrition Family Food Aides as identified by the County Extension Home Economists.

In a study conducted by Ruth Smith in 1972, tasks found to be common to the Expanded Food and Nutrition Family Food Aides were identified. In this study some understandings needed for these tasks have been identified but your help is needed in clarifying whether the understandings are needed to perform the tasks. The understandings identified are listed in the form of a check list. These understandings may or may not be needed by the food aides. The information obtained from the research will be used to construct a curriculum for the training of the aides in Iowa counties.

DIRECTIONS FOR QUESTIONNAIRE

Please read each item carefully before checking. Follow the information below.



For each of the 320 competencies for the tasks of the aides indicate the degree to which this competency is needed by selecting a number from 1 to 9.

Write 9 in the blank by the corresponding item if you are certain the competency is needed before entry into the job.

Write 1 in the blank if you are certain the competency is not needed.

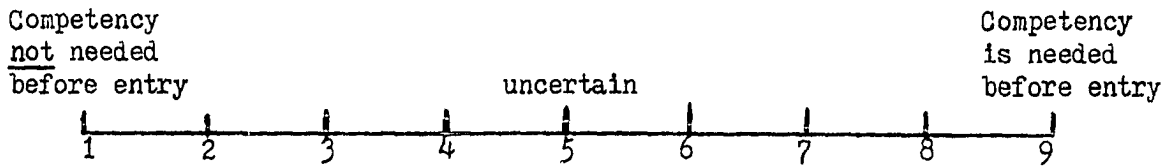
Write 5 in the blank if you are uncertain if the competency is needed.

Write other numbers to indicate degrees of need between 1 and 5 or between 5 and 9.

Please do not leave any answers blank.

Competence in this study is defined as mental, physical, and emotional abilities that are needed to enable a person to perform a task satisfactorily and with ease.

PART I

Task: Demonstrates and assists with actual food preparation

Understands:

- () 1. principles of food preparation
- () 2. procedures for preparing and/or cooking a variety of foods to conserve nutritive value
- () 3. procedures for sanitary food handling in meal
- () 4. importance of efficient arrangement of kitchen in food and meal preparation
- () 5. wise use of time and energy in meal preparation
- () 6. characteristics of well-prepared and/or cooked foods
- () 7. gradual changes in using new methods of food preparation
- () 8. how to use and care for equipment used in food and meal preparation

Task: Counsels individually and in small groups about special nutrition concerns

Understands:

- () 9. advantages of having substantial subject matter knowledge or help from authority before counseling about nutrition concerns
- () 10. types of nutrition problems commonly found in the groups or individuals
- () 11. reliable sources of printed and visual materials to help the individuals or group with nutrition problems
- () 12. community and neighborhood resources on hand to work with nutrition problems

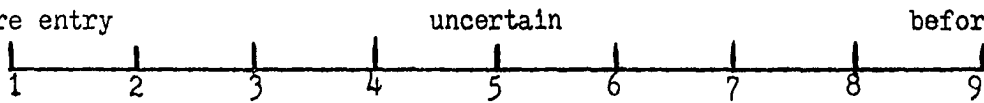
Task: Assists in preparation of grocery lists

Understands:

- () 13. procedure for determining foods that will be needed for meals during next four days or week
- () 14. procedure for determining foods that are available in the home
- () 15. sizes of products available and approximate number of servings each will yield
- () 16. preparation of a market order as aid to providing adequate nutrition
- () 17. the market order as a means of saving time and money when shopping
- () 18. forms of foods most readily available in local stores during the year

Competency
not needed
before entry

Competency
is needed
before entry



Task: Works with children and youth

Understands;

- () 19. ways of motivating youth and children when working with them
- () 20. interests of youth and children
- () 21. developmental tasks and needs of youth and children
- () 22. importance of talking and listening to the ideas of youth and children
- () 23. techniques of presenting material to youth and children
- () 24. advantages of remembering that one is working with, not for, youth and children
- () 25. influence of peer on behavior of the youth and children
- () 26. importance of adult model to youth and children
- () 27. community resources available for youth and children

Task: Explains the basic ideas about good meal planning

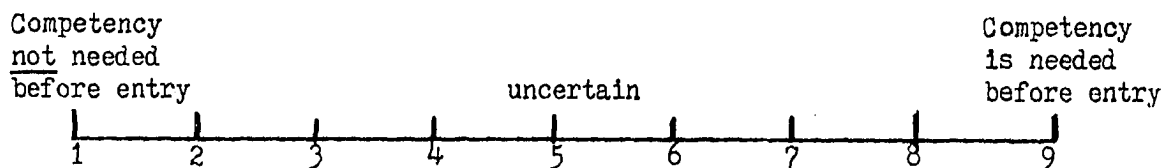
Understands;

- () 28. family meal pattern for daily meals and snacks which will provide for nutritional needs of family members
- () 29. meal planning as a means of providing a wider variety of foods for hurriedly prepared meals
- () 30. advantages of considering individual family members nutritional needs when planning
- () 31. advantages of planning menus that are nutritious and within the family food budget
- () 32. advantages of considering the families' cultural patterns related to food when planning for families' food
- () 33. amount of money that can be spent for food
- () 34. skill and time of person who will prepare meals
- () 35. planning as important to achieving adequate nutrition
- () 36. planning as a means of saving time, effort, and money in shopping and cooking meals
- () 37. advantages of having family members help with meal purchasing, preparation, serving, and cleaning up

Task: Encourages parents to talk and play with children

Understands;

- () 38. role of play in growth and development of children
- () 39. advantages of talks with children as family goes about daily routine
- () 40. advantages of involving children in daily routine activities
- () 41. individual differences in physical-motor, emotional, social, and mental development of children



Task: Encourages parents to talk and play with children

Understands:

- () 42. children's activity as essential for and a necessary part of growth
- () 43. changes in play patterns as children grow
- () 44. children's use of imitation and imagination in the learning processes
- () 45. development and duration of child's interests in talk and play
- () 46. language development patterns of children
- () 47. factors which influence language development
- () 48. kinds of stories of interest to children
- () 49. advantages of listening to ideas expressed by children
- () 50. advantages of using stories, poetry, songs, and fingerplays to increase vocabulary

Task: Advises homemaker on ways to deal with and discipline or guide children

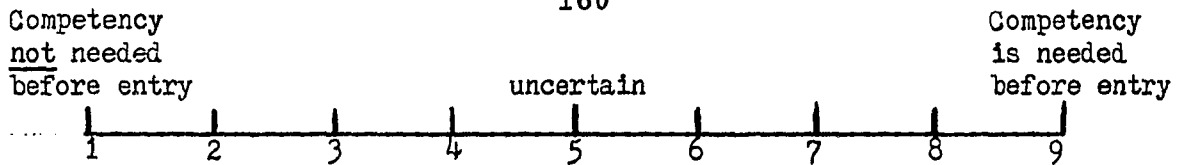
Understands:

- () 51. basic emotional and social needs of children
- () 52. factors influential in personality development
- () 53. reasons for behavior, why children behave the way they do at different times
- () 54. means of directing behavior which is appropriate to age and maturity of the child when disciplining children
- () 55. methods of reinforcing acceptable behaviors of children
- () 56. role of guidance in handling children's frustrations and tension outlets
- () 57. ways of handling sibling rivalry
- () 58. importance of adult models in determining behavior, values, and attitudes of children
- () 59. advantages of the development of self-control in children

Task: Assists eligible homemakers in applying for food stamps

Understands:

- () 60. that the homemaker qualifies for the food stamp program
- () 61. procedure for applying for food stamps
- () 62. advantages of explaining the form to be filled out by the homemaker
- () 63. responsibility of the homemaker to give accurate information in the application form
- () 64. where to send application for food stamps



Task: Prepares lesson plans with supervisor

Understands:

- () 65. objectives of the lesson
- () 66. reason for a lesson plan
- () 67. needs and interests of the adults
- () 68. ways of motivating adults
- () 69. appropriate ways of presenting information to different audiences
- () 70. reasons for using a variety of teaching methods
- () 71. learning experiences to be included in the lesson
- () 72. content of the lesson
- () 73. ways of evaluating the success of the lesson

Task: Introduces new foods and provides recipes encouraging their use

Understands:

- () 74. reasons for selecting recipes that will fit family food habits and customs
- () 75. need for selecting recipes that are within family food resources
- () 76. acceptable ways of introducing new foods to family members
- () 77. contribution of new foods to the health of family members

Task: Makes illustrative materials to assist in special teaching situations

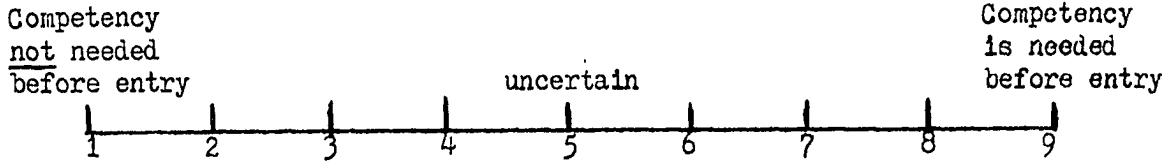
Understands:

- () 78. the advantages of making illustrative materials for subject matter to be taught
- () 79. ways of making illustrative materials
- () 80. knowledge and skill needed in making illustrative materials
- () 81. equipment and materials to be used in making the illustrative materials
- () 82. types of audience with which the illustrative materials will be used
- () 83. ways of evaluating good illustrative materials

Task: Aids in securing food stamps

Understands:

- () 84. procedures for securing food stamps
- () 85. amount of money homemaker needs to purchase stamps
- () 86. people to contact when securing food stamps
- () 87. where and how to use the food stamps
- () 88. places to secure food stamps
- () 89. time to apply for food stamps



Task: Promotes growing of food supplies when practical and possible

Understands:

- () 90. advantages and disadvantages of growing a garden
- () 91. economic value of growing own food
- () 92. crops which can grow in certain areas
- () 93. resources available in reading about gardening
- () 94. procedure for growing a garden

Task: Assists homemakers with actual purchase of foods

Understands:

- () 95. family customs which influence meal planning, buying, and preparing
- () 96. factors to consider when buying food in terms of supplying nutrition
- () 97. ways to help homemaker improve food purchasing practices
- () 98. what to look for when buying perishable foods
- () 99. factors to consider when purchasing convenience foods
- () 100. advantages of keeping record on money spent for food
- () 101. prices of commodity that will vary in supermarket, chain, independent, and specialty stores
- () 102. special services rendered by different stores may influence food prices
- () 103. where to find special food needs of family members

Task: Advises of availability of free and reduced price school lunches

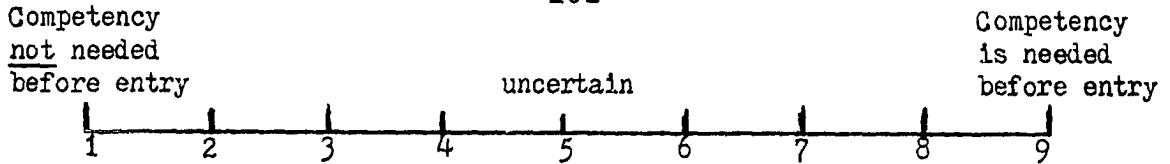
Understands:

- () 104. advantages to children of participation in free lunch program
- () 105. ways of encouraging the homemaker to have the child participate in the free lunch program
- () 106. requirements to qualify in enrolling for the program

Task: Tries to motivate homemakers and families to help themselves

Understands:

- () 107. ways of motivating homemakers and families to help themselves
- () 108. advantages of helping the families to do their own duties and solve their own problems
- () 109. individual differences between the families and the family members in relation to ways of motivating
- () 110. advantages of working with the homemakers and the families in the beginning so that they will not fail
- () 111. that praising small accomplishments can help motivate the homemakers to do more



Task: Tries to motivate homemakers and families to help themselves

Understands:

- () 112. ways of finding possible talents and finding ways of developing them
- () 113. advantages of involving the family in demonstration of tasks they know how to do
- () 114. advantages of enthusiastic attitude by the aide even when the progress is slow

Task: Advises unemployed on job opportunities

Understands:

- () 115. procedures for applying for a job
- () 116. ways of helping the unemployed gain employable skills
- () 117. ways of encouraging the unemployed to obtain and keep a job.
- () 118. possibilities of on-the-job training
- () 119. potential unemployed people who need jobs

Task: Proper food storage

Understands:

- () 120. procedure for safe ways of storing foods which will also result in acceptable color, texture, and flavor
- () 121. ways of storing food to preserve nutrients
- () 122. food storage as being important for conservation of nutritive value
- () 123. length of time various foods may be safely stored
- () 124. proper places to store various kinds of food

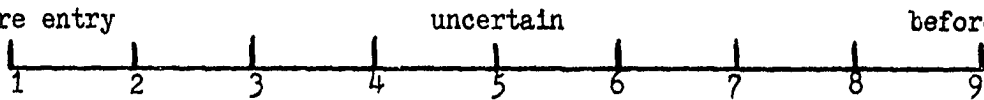
Task: Illustrates good food buys to help women get the most value for each food dollar spent

Understands:

- () 125. value of making a shopping list
- () 126. factors that influence food selection
- () 127. advantages of comparative buying in different markets (or grocery stores)
- () 128. ways of judging good food buys
- () 129. comparative buying of different forms of food
- () 130. criteria to use in evaluating special on foods
- () 131. ways of including left-overs to stretch food dollar

Competency
not needed
before entry

Competency
is needed
before entry



Task: Encourages the use of a variety of foods

Understands:

- ()132. that many nutrients are necessary to meet the different needs of the body
- ()133. that nutritive values are different for each food
- ()134. that nutrients for body needs are easier to obtain when a variety of foods are eaten
- ()135. that variety of food makes meals more interesting with different flavors, colors, shapes, and textures

Task: Assists in planning wise use of leftovers and food supplies on-hand

Understands:

- ()136. economic contribution of leftover foods
- ()137. ways that leftover foods might be used to meet nutritional needs
- ()138. nutritional contribution of leftovers to future meals or snacks
- ()139. ways of preparing appetizing leftover food
- ()140. kind of leftover foods that can be safely stored
- ()141. procedures for storing leftover foods safely

Task: Shows how to use the basic four food group in planning

Understands:

- ()142. foods included in each of the four food groups
- ()143. advantages of considering family food preferences in planning meals
- ()144. major nutrients included in each of four food groups
- ()145. ways of using the basic four food groups in planning the menus for a day
- ()146. sources of recipes that use foods in the four food groups

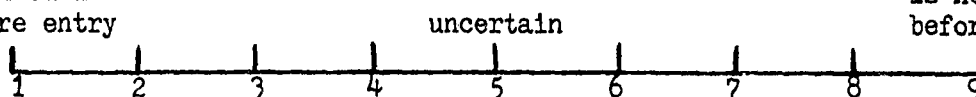
Task: Gives support to family member by accompanying on a visit to obtain social service help

Understands:

- ()147. where social service help can be obtained
- ()148. ways of giving emotion support to the family member during a visit to social service place
- ()149. reactions of social service personnel to serving the family members

Competency
not needed
before entry

Competency
is needed
before entry



Task: Encourage participation in weight control groups

Understands:

- ()150. factors which contribute to overweight
- ()151. that body weight can be controlled by a balance of activity and good intake
- ()152. that all foods contribute calories to the diet in varying amounts
- ()153. influence of the group on each other to keep observing the requirements for weight control practices

Task: Aids those on special diets in making grocery lists

Understands:

- ()154. reasons why a patient needs to use special diet
- ()155. needs for a special diet for the patient
- ()156. procedure for obtaining reliable information if needed concerning dietary modification
- ()157. desirability of adjusting family menu for meals for patient using as many items as possible to avoid special preparation

Task: Promotes the use of more fruits and vegetables in the diet

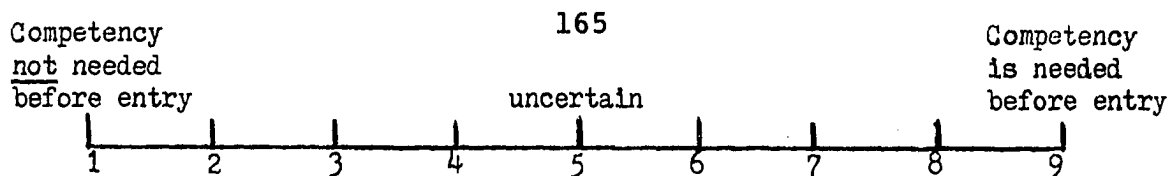
Understands:

- ()158. fruits and vegetables locally available and their prices
- ()159. advantages of developing skill in judging the quality of fresh fruits and vegetables by their appearance
- ()160. ways of preparing fruits and vegetables
- ()161. comparative nutritive values and costs of different forms of fruits and vegetables
- ()162. roughage contribution of fruits and vegetables
- ()163. factors that influence vitamin retention in fruits and vegetables
- ()164. ways of determining cost per serving of fruits and vegetables

Task: Assists homemakers to find ways to help children express feelings

Understands:

- ()165. advantages of expressing feelings between children and family members
- ()166. ways of expressing feelings in children
- ()167. importance of art as a medium of expressing ideas and feelings of children
- ()168. importance of music as a medium of expressing ideas and feelings
- ()169. importance of play activities as a medium of expressing ideas and feelings
- ()170. advantages of food as a medium of expressing ideas and feelings of children



Task: Helps homemakers to accept normal disagreements between children

Understands;

- ()171. reasons for disagreements between children
- ()172. advantages of accepting or understanding children's feelings
- ()173. what is normal disagreement between children
- ()174. advantages of letting children work out their own solutions for disagreements

Task: Helps mothers to understand and accept the changing interests in their children's lives

Understands;

- ()175. advantages of adjusting home environment to meet changing needs and interests of children
- ()176. behavioral characteristics at different stages of development
- ()177. physical, social, emotional, and mental changes that take place as children grow
- ()178. resources available for parents on changing needs and interests of children
- ()179. influence of peers in the personality development of children

Task: Informs and shows homemakers inexpensive toys to make for children

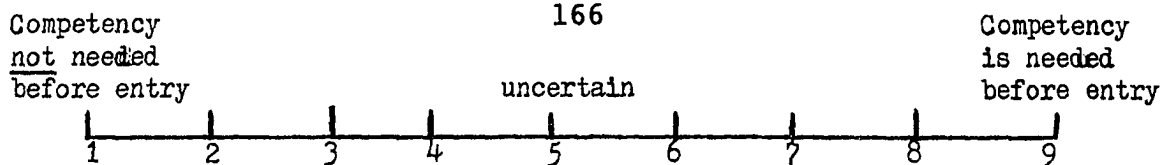
Understands;

- ()180. ability of the homemaker to make inexpensive toys
- ()181. ability of the homemaker to follow directions in making inexpensive toys
- ()182. reasons for making inexpensive toys
- ()183. resources available in getting information about how to make inexpensive toys
- ()184. materials available for making inexpensive toys
- ()185. methods of making inexpensive toys

Task: Plans and conducts lessons in meal management and food preparation

Understands;

- ()186. knowledge and skill needed by the aide to conduct the lessons
- ()187. needs and interests of the homemakers
- ()188. resources available for meal preparation
- ()189. proper ways of using available resources



Task: Acts to help family secure funds for food purchase when they have no food or money

Understands:

- ()190. necessity of talking with the family before securing funds
- ()191. procedure to secure funds
- ()192. families willingness to accept the secured funds
- ()193. agencies to contact for aiding the family with funds for food purchases

Task: Prepares nutritional snack foods for preschoolers, school age children and adults

Understands:

- ()194. advantages of planning between meal snacks as part of total day's intake
- ()195. advantages of selecting nutritious snacks that are inexpensive
- ()196. importance of preparing appropriate snack foods that are readily available
- ()197. foods that can be easily prepared and safely stored for snacking
- ()198. foods that would supplement meals for the day without excess calories

Task: Promotes use of nonfat dry milk to save on fluid milk costs

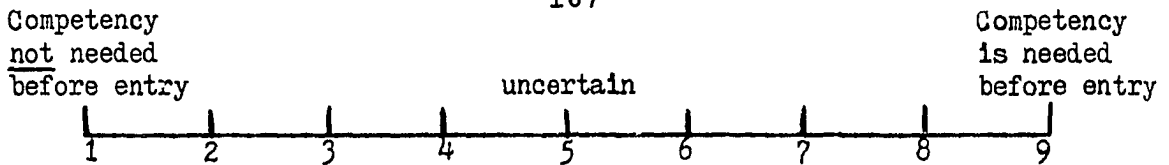
Understands:

- ()199. maximum nutrient value from money spent on dry milk
- ()200. the need to select nonfat dry milk that has been fortified with vitamin A & D
- ()201. ways in which nonfat dry milk can be used in food preparation
- ()202. use and storage advantages of dry milk
- ()203. ways of determining the cost and nutritive value of dry milk and other forms of milk
- ()204. sources available for the homemaker to obtain dry milk

Task: Refers families to appropriate helping community agencies

Understands:

- ()205. various community agencies available to serve the families
- ()206. procedures involved in seeking help from community agencies
- ()207. qualifications for receiving help from the agencies
- ()208. difficulties encountered by families when receiving help from some agencies
- ()209. how the agency personnel works with the families



Task: Advises on weight problems providing low-calorie recipes

Understands;

- () 210. problems related to obesity
- () 211. procedures for losing weight
- () 212. use of daily food guide as a means of reducing weight
- () 213. use of exercise as a means of reducing weight
- () 214. need for homemakers to seek expert advice on menu planning for weight reduction
- () 215. effects of fad diets on the health of users
- () 216. limitations of Food Aide to advise homemakers on how to reduce weight
- () 217. the necessity for the Aide to keep her own weight within the ideal range

Task: Explains basic nutrition concepts

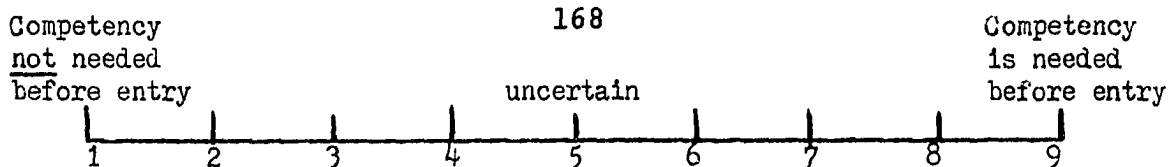
Understands;

- () 218. need for explaining basic nutrition concepts
- () 219. sources of basic nutrition concepts
- () 220. major functions of basic nutrients in the diet
- () 221. effective methods of explaining basic nutrition concepts
- () 222. advantages of explaining nutrition concepts that are to the level of the homemaker
- () 223. importance of introducing new ideas about nutrition, one at a time

Task: Helps new mothers with infant and child feeding

Understands;

- () 224. need for sanitation in food preparation and feeding infants and children
- () 225. advantages of accuracy in preparing formula
- () 226. advantages of using prescribed formula for infant feeding
- () 227. need for appropriate storage of prepared formula
- () 228. nutritional needs of infant and child
- () 229. eating behavior patterns of infants and children
- () 230. relation of good nutrition to growth and development of child
- () 231. the importance mother places on infant and child feeding
- () 232. advantages of understanding that eating habits are formed during childhood
- () 233. advantages of helping the mothers to help children develop desirable food habits
- () 234. development of children's motor skills and its effect on feeding patterns
- () 235. physical characteristics of a well-nourished child
- () 236. social behavior of children in the feeding situation



Task: Explains the food stamp and supplemental food programs--their benefits to the family and operation

Understands;

- ()237. requirements for qualifying for food stamps and supplemental foods
- ()238. ways of changing attitudes of the homemaker toward food stamps and supplemental foods
- ()239. advantages of using food stamps and supplemental foods as a means of stretching food dollar
- ()240. purposes of food stamp and supplemental food programs
- ()241. where to find food stamps and supplemental food programs

Task: Helps homemakers and family members with problems related to food likes and dislikes

Understands;

- ()242. how and when food habits are formed
- ()243. ways of using old recipes to incorporate new foods in the diets
- ()244. the influence of environment and family members attitudes toward food on children's likes and dislikes
- ()245. advantages of patience in giving family time to change their old patterns of eating

Task: Provides child development information to parents or guardian

Understands;

- ()246. reasons for what is expected and anticipated of children at various stages of growth as well as the sequence involved
- ()247. advantages of assisting parents to see their role in interacting with children
- ()248. reason for child's behavior
- ()249. the interaction of the emotional, social, physical, and mental development of children

Task: Assists diabetics, elderly, and pregnant women in interpreting special diets through wise food selection and preparation

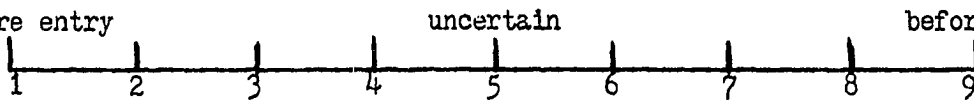
Understands;

- ()250. kinds of diets suitable during pregnancy, for diabetic patients, and for the elderly
- ()251. reasons for certain foods being restricted
- ()252. preparation methods and seasonings that may be used

Competency
not needed
before entry

169

Competency
is needed
before entry



Task: Assists in actual preservation of food by canning, freezing, and making jellies and jams

Understands:

- () 253. reasons for canning and freezing
- () 254. skills needed by the homemaker in following the directions in canning foods
- () 255. advantages of using recommended methods of canning and freezing
- () 256. procedure for canning and freezing
- () 257. common causes of frozen and canned food spoilage
- () 258. standards for a well-preserved product
- () 259. availability of equipment to be used for canning and freezing
- () 260. inexpensive materials to use in canning or freezing
- () 261. space available for storage

Task: Counsels individually and in small groups regarding problems with family resources

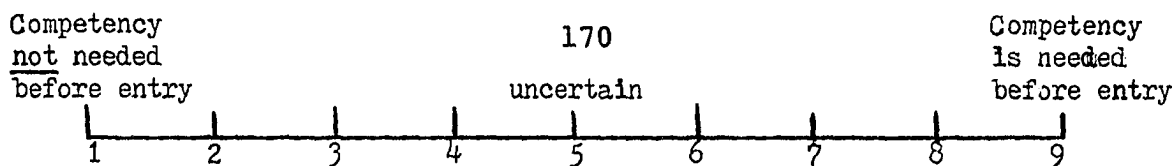
Understands:

- () 262. ways of helping families see a need for counseling
- () 263. resources available to the families in the community
- () 264. types of resource problems faced by the families
- () 265. families' human and material resources on hand
- () 266. ways of using resources to maximize satisfactions
- () 267. multi-purpose use of resources available
- () 268. when to counsel with the individuals or in small groups or when to refer them to experts

Task: Assists parents or guardians in arranging necessary care for children in family emergencies

Understands:

- () 269. importance of developing plan for care of children when emergencies arise ahead of time
- () 270. reasons for planning for emergencies
- () 271. emotional needs of the family members during emergency crises
- () 272. physical needs of family member during emergency crisis
- () 273. advantages of developing emergency plan for care of child before an emergency
- () 274. places to go for child care during family emergencies



Task: Distributes materials and gives information about safe methods for canning and freezing and making jellies and jams

Understands:

- () 275. homemaker's attitudes, interests and reading skills
- () 276. ability of the homemaker to use the material related to canning and freezing
- () 277. materials available for use
- () 278. where to get the materials

Task: Supplies tested recipes for women to use

Understands:

- () 279. need for using well-written, tested recipes for standard results
- () 280. essential information a recipe should contain
- () 281. advantages of using tested recipes
- () 282. sources of clearly written tested recipes

Task: Informs families where to go to get items at lowest cost

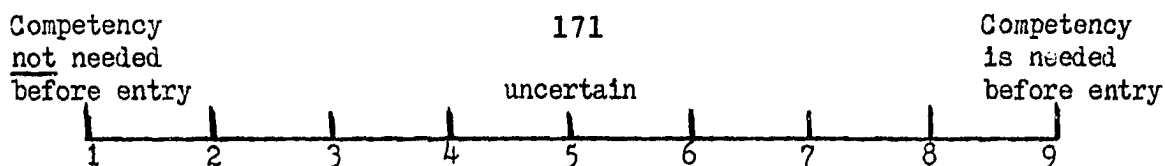
Understands:

- () 283. criteria for deciding a good buy
- () 284. where to buy low cost items
- () 285. reasons for shopping where the items cost less
- () 286. attitude of the homemaker to go to the place of the lowest cost
- () 287. advantages of comparative buying
- () 288. advantages of making use of advertised low cost items in the news papers
- () 289. sources of information where the homemakers can turn to in the future to look for low cost places in the community
- () 290. feasibility of homemaker to go to the referred place

Task: Shows how to prepare homemade mixes

Understands:

- () 291. advantages of preparing homemade mixes
- () 292. procedure in preparing homemade mixes
- () 293. equipment and space available for storing homemade mixes
- () 294. ways of storing homemade mixes



Task: Stays with children in emergencies

Understands:

- () 295. emotional need of children when the family is under emergency crisis
- () 296. ways to help children gain confidence in fearful situations
- () 297. health and safety measures to use with children during emergency crises
- () 298. ways of meeting personal needs of children in emergencies
- () 299. situations in which it is necessary to call for professional help
- () 300. procedure for contacting professional help during emergency crises
- () 301. conditions that might upset a child during emergency crises
- () 302. legal responsibilities involved in taking care of the child during emergency

Task: Helps with menu planning for holidays

Understands:

- () 303. customs observed among different nationalities during holidays
- () 304. homemaker's money allotted for the daily meals, snacks, holiday meals
- () 305. usual food price changes occurring during different holiday seasons
- () 306. cooking equipment homemaker has available to use on meal preparation
- () 307. amount of storage space available for daily and holiday leftovers

Task: Suggests immunization for children

Understands:

- () 308. importance of immunizations for children
- () 309. procedures for obtaining immunization for children
- () 310. places to obtain immunizations for children
- () 311. immunizations available against diseases

Task: Helps families fill out application blanks for hot lunch program

Understands:

- () 312. procedures for filling out application forms
- () 313. importance of neatness when filling application blanks
- () 314. where to send the application blanks after completion

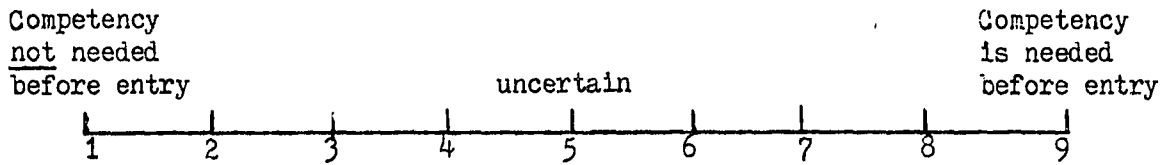
Task: Provides simple toys, pictures, and puzzles for children's play during visits

Understands:

- () 315. criteria for selecting children's play materials
- () 316. characteristics of safe and educational toys
- () 317. multiple use of simple toys
- () 318. methods of caring for children's play materials and equipment
- () 319. educational contribution of various simple play toys and puzzles
- () 320. play equipment that can be recycled from material brought into the house

DIRECTIONS FOR QUESTIONNAIRE

Please read each item carefully before checking. Follow the information below.



For each of the 295 competencies for the tasks of the aides indicate the degree to which this competency is needed by selecting a number from 1 to 9.

Write 9 in the blank by the corresponding item if you are certain the competency is needed before entry into the job.

Write 1 in the blank if you are certain the competency is not needed.

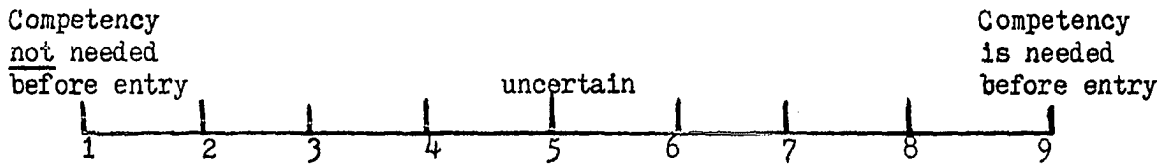
Write 5 in the blank if you are uncertain if the competency is needed.

Write other numbers to indicate degrees of need between 1 and 5 or between 5 and 9.

Please do not leave any answers blank.

Competence in this study is defined as mental, physical, and emotional abilities that are needed to enable a person to perform a task satisfactorily and with ease.

PART II



Task: Confers with Extension Home Economics Supervisor at staff meeting and as need arises

Understands:

- () 321. objectives of the conference
- () 322. desirable ways to seek advice from and offer information to Extension Home Economist
- () 323. advantages of feeling at ease in sharing information with each other freely
- () 324. important issues and problems to be discussed in the conference
- () 325. place and time to relate confidential matters
- () 326. need for confidentiality about program families
- () 327. length of conference, and importance of arriving at the conference place on time

Task: Locates families to be contacted about the program

Understands:

- () 328. ways of locating families to be contacted
- () 329. procedures for contacting families
- () 330. criteria for deciding which families to be contacted
- () 331. ways of deciding when to contact a family
- () 332. the community where the family lives

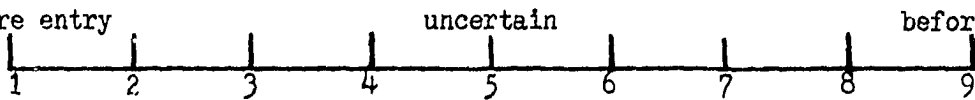
Task: Aids homemakers in helping family members find satisfaction in what they do

Understands:

- () 333. advantages of helping children feel useful, helpful, wanted, and needed
- () 334. ways of helping children to feel helpful, useful, wanted, and needed
- () 335. need for children to experience success in what they do
- () 336. relationship between children's emotions and work to be done
- () 337. ways of recognizing each individual for the accomplishments they are able to do
- () 338. need to set reasonable standards of performance
- () 339. ways of helping family members find self-satisfaction as well as rewards from each other
- () 340. importance of assisting children with difficult as well as easy chores
- () 341. advantages of giving family members a chance to "show and tell" things they are successful in doing

Competency
not needed
before entry

Competency
is needed
before entry



Task: Provides encouragement to the family

Understands:

- () 342. ways of providing encouragement to the family members
- () 343. importance of giving encouragement at the time it is needed
- () 344. advantages of helping the family members to praise each other's efforts
- () 345. ways to help families see possible solutions to their problems
- () 346. advantages of finding the strong points about the homemaker and encouraging development of these skills
- () 347. advantages of praising small achievements of family members
- () 348. areas of living which bring discouragement to family members
- () 349. verbal and non-verbal communication used in positive reinforcement
- () 350. advantages of helping the families see ways others have overcome their problems

Task: Refers women with questions about birth control to community health services or planned parenthood group

Understands:

- () 351. advantages of making decisions with the spouse about birth control
- () 352. the homemaker's willingness or resistance to use the birth control methods
- () 353. homemaker's decision regarding birth control and her acceptance of the decision
- () 354. advantages of planning family size and spacing of children
- () 355. importance or value of children to different cultures
- () 356. procedures for contacting the community health services
- () 357. various birth control methods
- () 358. advantages and disadvantages of using various birth control methods
- () 359. where the community services are located

Task: Urges families to seek needed health care

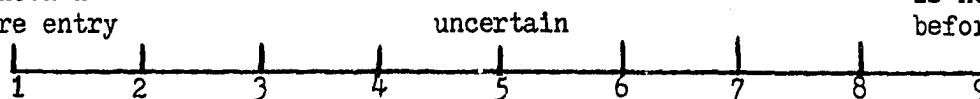
Understands:

- () 360. advantages of regular medical and dental checkups for each member of the family
- () 361. symptoms of communicable diseases
- () 362. ways of caring for patients with communicable diseases
- () 363. advantages of keeping health records
- () 364. community resources available to aid the homemaker with needed health care

Competency
not needed
before entry

175

Competency
is needed
before entry



Task: Encourages families to participate in other educational opportunities

Understands:

- () 365. educational objectives and activities of other agencies
- () 366. advantages of participating in other educational opportunities
- () 367. ways to encourage the family to participate in other educational opportunities
- () 368. community educational opportunities available to the family
- () 369. families which may benefit most from different agencies

Task: Determines interests and needs of family groups

Understands:

- () 370. ways of determining needs and interests of family groups
- () 371. advantages of pursuing interests and needs of family groups once determined
- () 372. differences between expressed needs and felt needs
- () 373. limitations of basing educational objectives on interests only
- () 374. importance of using interests and needs of family group as a bases for planning educational objectives

Task: Keeps log providing information about each family contact

Understands:

- () 375. reasons for keeping logs
- () 376. when to write information in the logs
- () 377. information to be included in the log
- () 378. ways of using information from the logs to help the families

Task: Reads and interprets recipes and instructional leaflets to those who cannot read or find reading difficult

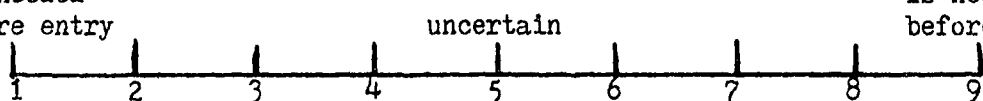
Understands:

- () 379. procedures for following recipe directions
- () 380. meaning of common recipe terms
- () 381. common food weights and measurements and abbreviations
- () 382. correct methods of measuring different types of ingredients
- () 383. practical recipes for program homemakers
- () 384. how to make recipe cards in picture form

Competency
not needed
before entry

176

Competency
is needed
before entry



Task: Demonstrates proper use of equipment

Understands:

- ()385. reasons for using equipment properly
- ()386. skill of the homemaker in using the equipment
- ()387. reasons for considering the usefulness of equipment before purchasing
- ()388. importance of using manufacture's instruction book on how to use the equipment
- ()389. safety hazards that result from the misuse of electric equipment
- ()390. importance of proper storage space of equipment
- ()391. importance of design of appliance in relation to intended use
- ()392. design of equipment currently being used by homemakers

Task: Explains and promotes the Expanded Nutrition Program

Understands:

- ()393. objectives and philosophy of the Expanded Nutrition Program
- ()394. ways of promoting and explaining the Expanded Nutrition Program
- ()395. importance of involving key community people in the promotion stage
- ()396. the target audience for the Expanded Nutrition Program
- ()397. the needs and interests of the target audience
- ()398. strategic places to display promotion posters and brochures
- ()399. most appropriate times to promote the program
- ()400. importance of explaining aspects of program for immediate use
- ()401. importance of involving other community agencies that serve low-income families to support the program

Task: Advises on choice and availability of housing

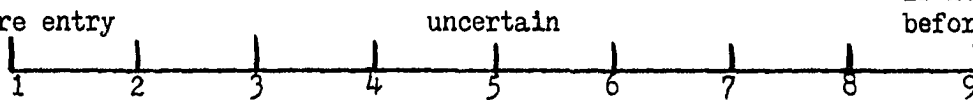
Understands:

- ()402. family financial resources available to be used for housing
- ()403. types of housing available in the community
- ()404. families' human resources in making decision about the house
- ()405. prices for different types of dwellings
- ()406. factors to consider when selecting neighborhood
- ()407. factors to consider when evaluating desirability of the house for individual human needs
- ()408. where family can get assistance in choosing housing

Competency
not needed
before entry

177

Competency
is needed
before entry



Task: Provides transportation when other transportation is not available

Understands:

- () 409. how to drive a car
- () 410. responsibilities of the driver to the safety of the passengers
- () 411. how to use a community road map
- () 412. legal risks involved in case of accidents
- () 413. advantages of insuring car for transportation
- () 414. how to evaluate necessity for providing transportation to avoid abuse
- () 415. community agencies or persons who could provide transportation for the family

Task: Assists family members in cleaning kitchen and cupboards

Understands:

- () 416. reasons for cleaning kitchen and cupboards
- () 417. procedure for using cleaning agents
- () 418. sequence of steps in cleaning job to obtain good results with economical expenditure of time and energy and materials
- () 419. safety measures to take with wet and highly polished kitchen floors
- () 420. proper handling and suitable uses of cleaning materials
- () 421. proper storage of cleaning materials
- () 422. kinds of cleaning agents recommended for surfaces

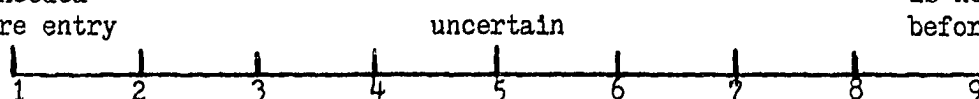
Task: Talks over family problems

Understands:

- () 423. types of family problems experienced by low-income families
- () 424. sources of family problems of the low-income families
- () 425. sources of information on how to solve family problems
- () 426. resource people who could help families on various family problems
- () 427. advantages of being able to talk over family problems
- () 428. advantages of letting the family solve their own problems
- () 429. advantages of expressing feelings without fear of losing face
- () 430. difference between problems and symptoms

Competency
not needed
before entry

Competency
is needed
before entry



Task: Arranges for small group meetings on topics relating to food and nutrition

Understands:

- ()431. objectives of the meeting
- ()432. interest and needs of the group
- ()433. methods of conducting group meetings which relate to the topic
- ()434. abilities of the group to master selected projects on the topic
- ()435. resources available (material and human) to be used in the meetings
- ()436. appropriate time for meetings to take place
- ()437. how to select a good meeting place
- ()438. ways of providing for child care and transportation of the participants
- ()439. ways of using the results of the evaluation for the meetings
- ()440. ways of evaluating the success of the meetings

Task: Writes up report of meetings held

Understands:

- ()441. purpose of writing the report
- ()442. what is to be included in the report
- ()443. importance of writing report within 24 hours
- ()444. advantages of writing report in legible and neat form
- ()445. advantages of keeping reports filed and in order
- ()446. how the report will be used

Task: Conducts group meetings

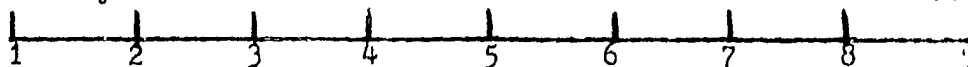
Understands:

- ()447. objectives for the meetings
- ()448. advantages of being well-prepared on the topic before conducting a meeting
- ()449. advantages of conducting the meeting at the understanding level of the audience
- ()450. ways of building and keeping interest of the audience
- ()451. importance of discussing relevant issues
- ()452. the value of shared learning and informal discussion
- ()453. advantages of having self-confidence and a pleasing voice
- ()454. how to use group resource people

Competency
not needed
before entry

uncertain

Competency
is needed
before entry



Task: Informs families of methods to control insects and rodents

Understands:

- ()455. unsanitary conditions and diseases brought about by insects and rodents
- ()456. procedures of exterminating insects and rodents
- ()457. ways of protecting a house against insects and rodents
- ()458. chemicals used and methods of using the chemicals for exterminating insects and rodents
- ()459. importance of storing equipment and chemicals used to control insects and rodents safely
- ()460. places where one can get expert help on how to get rid of insects

Task: Refers families concerned about drinking and mental health problems to government or community agency involved

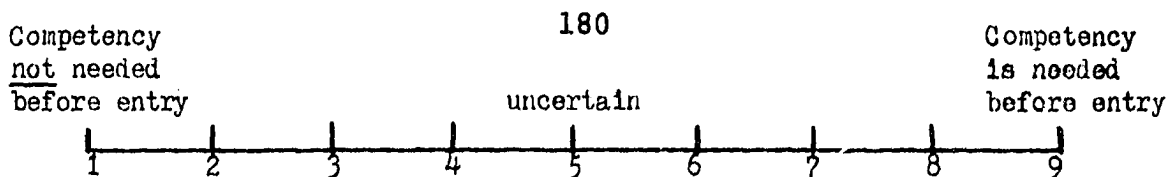
Understands:

- ()461. symptoms of mental and physical problems
- ()462. ways of identifying family health problems
- ()463. procedures for contacting the community or government agency
- ()464. the importance of keeping some information regarding drinking and mental health confidential
- ()465. to whom and to whom not to refer the families
- ()466. community and government agencies available to help the families

Task: Demonstrates refrigerator care

Understands:

- ()467. characteristics of refrigerators in need of cleaning and defrosting
- ()468. procedure for storing refrigerated foods while refrigerator is being cleaned and defrosted
- ()469. procedure for cleaning and/or defrosting the refrigerator
- ()470. safety measures to take when connecting or disconnecting the refrigerator to or from the wall fixture
- ()471. procedure for good refrigerator storage
- ()472. signs of good functioning refrigerator
- ()473. proper things to store in the refrigerator
- ()474. equipment and agents to use for cleaning the interior and exterior of the refrigerator



Task: Evaluates family progress with aid of Supervisor

Understands:

- () 475. ways of helping the family set short-term or long-term goals
- () 476. various ways to evaluate families' progress
- () 477. importance of using different methods in evaluating the progress of the family
- () 478. ways of interpreting the data obtained
- () 479. ways of using the data with families

Task: Reads and interprets medical directions to those who cannot read or find reading difficult

Understands:

- () 480. necessity for person to follow physicians' orders
- () 481. meanings of some of the medical terms and symbols
- () 482. person's ability to remember and carry out physician's orders
- () 483. need for tact and firmness in reminding and assisting person to carry out physician's orders

Task: Helps family to improve living conditions

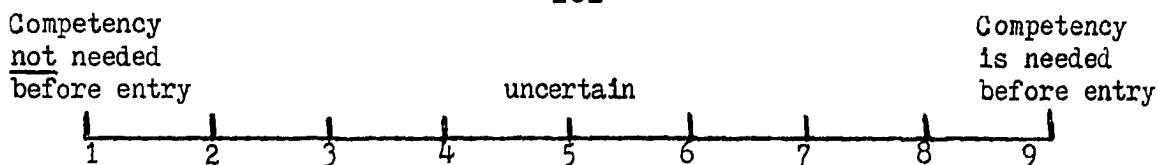
Understands:

- () 484. advantages and disadvantages of various family values and goals
- () 485. advantages of finding out the families' resources and ways of using them more effectively
- () 486. importance of finding the families' attitude about their living conditions
- () 487. advantages of defining the living conditions to be improved ahead of time
- () 488. reasons for wanting to find out causes of present living conditions
- () 489. ways of improving living conditions

Task: Demonstrates methods to use to control insects

Understands:

- () 490. procedures for using insecticide
- () 491. advantages of following directions on how to use the insecticide
- () 492. dangers of careless use of insecticide
- () 493. available insecticides on the market
- () 494. advantages of assembling necessary equipment and chemicals before starting to demonstrate
- () 495. dangers of living with insects



Task: Demonstrates methods to use to control insects

Understands:

- () 496. care of insecticide
- () 497. where to get information on insecticide
- () 498. where to buy insecticide

Task: Encourages parents to seek professional assistance for children suspected of having emotional, physical and mental problems

Understands:

- () 499. that repeated small accidents or near accidents may be indications or physical, emotional, or mental problems
- () 500. reasons for seeking professional help
- () 501. importance of aide to discuss the situation with Extension Home Economist so decisions relating to asking for professional assistance can be made
- () 502. professional assistance available

Task: Fills out monthly and semi-annual reports

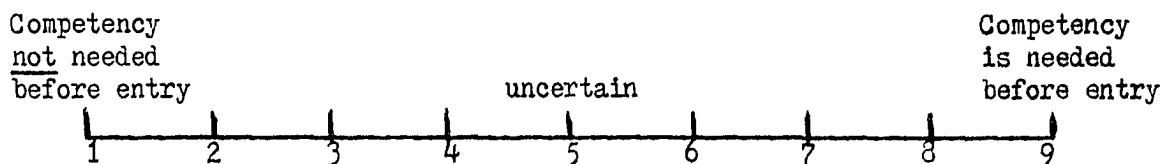
Understands:

- () 503. advantages of regarding reports as confidential documents
- () 504. advantages of keeping reports neat
- () 505. the purpose of monthly and semi-annual reports
- () 506. how to fill out monthly and semi-annual reports
- () 507. advantages of turning the reports in on time
- () 508. to whom the report will be sent
- () 509. how the reports will be used

Task: Prepares weekly aide report and time voucher

Understands:

- () 510. reasons for keeping weekly report and time voucher
- () 511. procedures for writing a weekly report and time voucher
- () 512. information to be included in the weekly report and time voucher
- () 513. ways of using information included in the weekly report and time voucher
- () 514. contribution of home visit to aide's report



Task: Makes judgement with aid of supervisor as to when a homemaker and family are ready to leave the program

Understands:

- () 515. objectives set for the homemaker to accomplish before leaving the program
- () 516. ways of preparing the homemaker to handle her own problems when she leaves the program
- () 517. ways of evaluating whether the objectives set for the homemaker have been accomplished

Task: Suggests where equipment may be repaired

Understands:

- () 518. ways of determining the equipment that is not well functioning
- () 519. dangers of operating equipment that need repairs especially electric equipment
- () 520. cost of repairing equipment
- () 521. dealer's guarantee on equipment and the importance of making use of guarantees
- () 522. transportation costs of the equipment to the service repairing place
- () 523. reliable places and persons to send the equipment for repair

Task: Attends weekly training meetings

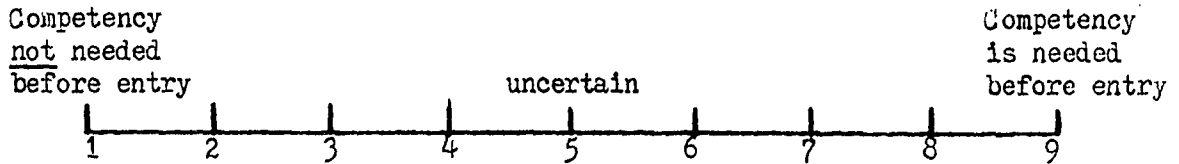
Understands:

- () 524. objectives of the training meeting
- () 525. methods of organizing and keeping information presented at the training meeting
- () 526. responsibilities of a family food aide at the training meetings
- () 527. role of Extension Home Economist in the training meeting

Task: Listens to family problems regardless of nature

Understands:

- () 528. advantages of establishing rapport with the family
- () 529. kinds of obstacles which prevent people from understanding each other
- () 530. what to say and what not to say to the family
- () 531. advantages of avoiding the approval or disapproval of what the family has to say about their problems in both verbal and non-verbal means
- () 532. advantages of the family to express ideas and opinions
- () 533. advantages of accepting the other person's ideas
- () 534. ways of giving a family support with their problems
- () 535. places to refer the family to seek help with different problems



Task: Plans work for week ahead

Understands:

- () 536. ways of planning for the week ahead
- () 537. advantages of planning ahead
- () 538. how short-term objectives lead to long-range goals
- () 539. ability to be flexible and have alternate plans when original plans fall through

Task: Assists homemakers to find satisfactions in every-day life

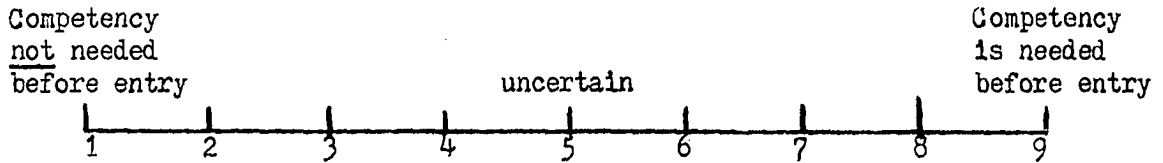
Understands:

- () 540. advantages of identifying individual needs
- () 541. advantages of identifying family needs
- () 542. ways of helping homemaker identify qualities of life they personally find satisfying
- () 543. advantages of decision-making process as a means of helping individuals to find satisfaction in every-day life
- () 544. ways of identifying standard for behaviors they find satisfying
- () 545. ways of exploring opportunities available that will increase satisfactions of individuals
- () 546. advantages of examining physical, social, emotional, and mental growth of mature individuals
- () 547. factors influencing personal satisfaction in everyday living

Task: Advises the homemaker on sanitation and safety as related to young children

Understands:

- () 548. importance of sanitation and safety as related to child care
- () 549. causes of home accidents and unsanitary conditions in young children
- () 550. safe and sanitary working procedures in the home
- () 551. advantages of early correction of unsanitary and hazardous conditions in the home
- () 552. characteristics of sanitary and safe home environment for young children
- () 553. types of home accidents and unsanitary conditions to young children
- () 554. advantages of keeping all medicine and chemicals out of reach of children
- () 555. dangers of plastic bags and coverings to children
- () 556. ways of detecting and eliminating common household hazards to children
- () 557. procedure for obtaining assistance to correct unsanitary and hazardous conditions



Task: Makes use of telephone to communicate

Understands:

- () 558. advantages and disadvantages of using the telephone to communicate
- () 559. advantages of using the telephone to save communication time
- () 560. when it is important to use long-distance telephone calls
- () 561. expenses involved in using long-distance telephone calls

Task: Talks to husbands about the program when there are opportunities

Understands:

- () 562. advantages of including the husbands in the program
- () 563. ways of building rapport with the husbands
- () 564. activities which would interest the husbands to participate in the program

Task: Distributes ideas on packing nutritious lunches that will carry safely in warm weather

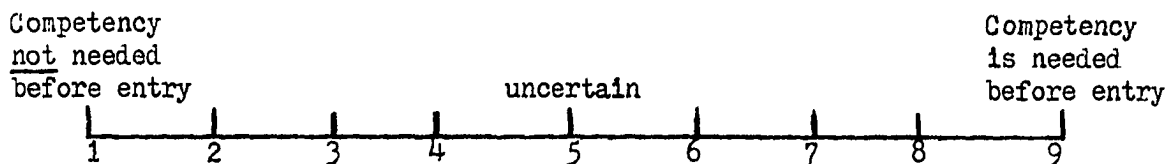
Understands:

- () 565. types of food that will keep safely in warm weather
- () 566. procedure of packing food and the materials used for packing
- () 567. that packed lunch needs to be nutritious
- () 568. advantages of sanitation of packed food
- () 569. dangers of packing food that will not keep in warm weather
- () 570. recipes that are nutritious and inexpensive

Task: Demonstrates ways to keep home clean and orderly

Understands:

- () 571. advantages of keeping a home clean and orderly
- () 572. skills needed to keep house clean and orderly
- () 573. ways of keeping house clean and orderly
- () 574. importance of applying work simplification methods when doing house cleaning
- () 575. importance of keeping time schedule for doing house cleaning
- () 576. purposes, types and uses of house cleaning agents
- () 577. different methods, equipment, and supplies needed in housekeeping
- () 578. use and care for necessary house cleaning equipment



Task: Encourages necessary sorting and throwing away

Understands:

- () 579. advantages and disadvantages of sorting and throwing away unwanted items
- () 580. sentimental feelings toward some of the things that people may need to sort and throw away
- () 581. advantages of supporting recycling campaign

Task: Assists homemakers to accept differences in family members

Understands:

- () 582. factors influencing ways individuals behave within the family
- () 583. advantages of accepting children for their age and stage of development
- () 584. reasons for individual differences with family members
- () 585. characteristics of child behavior at different ages
- () 586. dynamics operating within families, i.e. trust, identity, honesty
- () 587. individual needs of family members

Task: Advises on home furnishings and storage

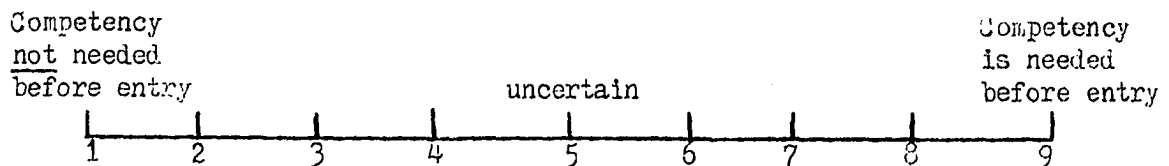
Understands:

- () 588. advantages of considering family income, values, and needs when furnishing a home
- () 589. skill in using materials available for furnishing a home
- () 590. ways of judging what is good home storage
- () 591. ways of judging good furnishing buys
- () 592. ways of making convenient home storage spaces
- () 593. community resources where a homemaker can purchase inexpensive furniture

Task: Helps homemakers and family to improve appearance of house both inside and out

Understands:

- () 594. advantages of improving the appearance of the house
- () 595. skills of the homemaker to improve the appearance of the home
- () 596. ways of encouraging a homemaker to improve the appearance of the home
- () 597. resources (human and material) available for the homemakers to use in improving the appearance of the home
- () 598. where, when and to whom the aide can refer the homemaker for more information about home improvement



Task: Gives information to homemakers about the program

Understands:

- ()599. advantages of selecting acceptable methods of giving information about the program
- ()600. ways of explaining objectives of the program
- ()601. advantages of giving relevant information and in an interesting way
- ()602. ways to explain the Cooperative Extension Service Organization
- ()603. resource materials to use with the homemakers
- ()604. sources of information to use in giving information about the program

Task: Informs as to good procedures for good housekeeping methods

Understands:

- ()605. advantages of using good housekeeping methods
- ()606. advantages of sharing duties among family members
- ()607. ways of sharing duties among family members
- ()608. housekeeping machines' special features and tools available to simplify housekeeping
- ()609. advantages of convenient storage
- ()610. contribution of convenient storage to good housekeeping

Task: Tries to interest families in other Extension Service Programs

Understands:

- ()611. needs and interests of families to attend other Extension Service Programs
- ()612. ways of interesting homemakers in participating in other Extension Programs
- ()613. people involved in conducting other Extension Service Programs
- ()614. other Extension Programs available for families
- ()615. time and places where the other meetings are held